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THE EFFECT OF THE RÖNTGEN RAYS ON CALCULI.

WITH THE REPORT OF A CASE OF RENAL CALCULUS IN WHICH THE DIAGNOSIS WAS CONFIRMED BY SKIAGRAPHY.

BY

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THE great difficulty of distinguishing nephro-lithiasis from many other pathological conditions of the genito-urinary tract —especially early tubercular disease of the kidney—is well known; but, except in the case reported below, the Röntgen rays have not yet proved of much practical value in the diagnosis of renal calculus.[1]

It can be, however, only a matter of time; and there is little doubt that a more extended knowledge of the methods now employed will enable us to graphically prove the existence of calculi not only in the kidney, but also in the urinary bladder,[2] gall-bladder, and intestine. Meanwhile, it may be profitable to consider the behaviour of calculi outside the body when exposed to the X rays, as Mr. Morris[3] has already done to some extent.

[1] *Lancet*, 1896, ii. 1631. [2] *Ibid.*, 1897, i. 169. [3] *Ibid.*, 1896, ii. 1367.

For this purpose a series of calculi of different composition has been taken, and their general appearance and size are well shown photographically in Plate I. As nearly as possible their thickness was uniform, about $\frac{5}{8}$ of an inch, in order that they might show more clearly the relative effect of exposure to the X rays for an equal number of minutes. The coil as used gave a minimum spark of three inches, and the focus tube was placed at a distance of six inches from the sensitive plate, and as nearly as possible directly over its centre.

In Plate II. we see the relative permeability of these calculi to the X rays after an exposure of four minutes. For purposes of comparison, some silver coins were placed on the sensitive plate, and as these are practically impermeable to the rays, we may regard the shadows of the coins as the standard of absolute impenetrability. It will be noticed that the deepest shadow is given by the two oxalate of lime calculi (B and F), which shows by comparison with the shadow of the coins that they may be regarded as almost impermeable to the rays—the coin beneath the larger calculus giving only a slightly deeper shadow than the calculus itself. The shadow given by the phosphatic calculus (D) is not so deep, and the coin beneath can be more plainly seen. Next in order comes the uric acid calculus (E); but this is much more easily penetrated by the rays than the former calculi, and the shadow of the coin beneath it stands out very strongly. Lastly, we get the still fainter shadow caused by the biliary calculus (C), which shows that its power of intercepting the X rays is comparatively slight. It follows from this, that the probability of diagnosis by these means is greatest in the oxalate of lime calculus, and least in the biliary calculus—phosphatic and uric acid calculi occupying an intermediate position.

It is interesting in this connection to consider Röntgen's[1] statement that, generally speaking, the denser the object, the deeper the shadow; in other words, the transmissibility of the X rays varies in an inverse ratio with the specific gravity of the body. This, however, is not the only factor in determining

[1] *Sitzungsb. d. phys.-med. Gesellsch. zu Würzb.*, 1895; translated in *Nature*, 1896, liii. 274, and reprinted in a Special Issue of the *Photogram*, Feb. 1896.

PLATE I.

Photograph of Calculi—approximately of natural size.

A. Biliary Calculus, similar to C.

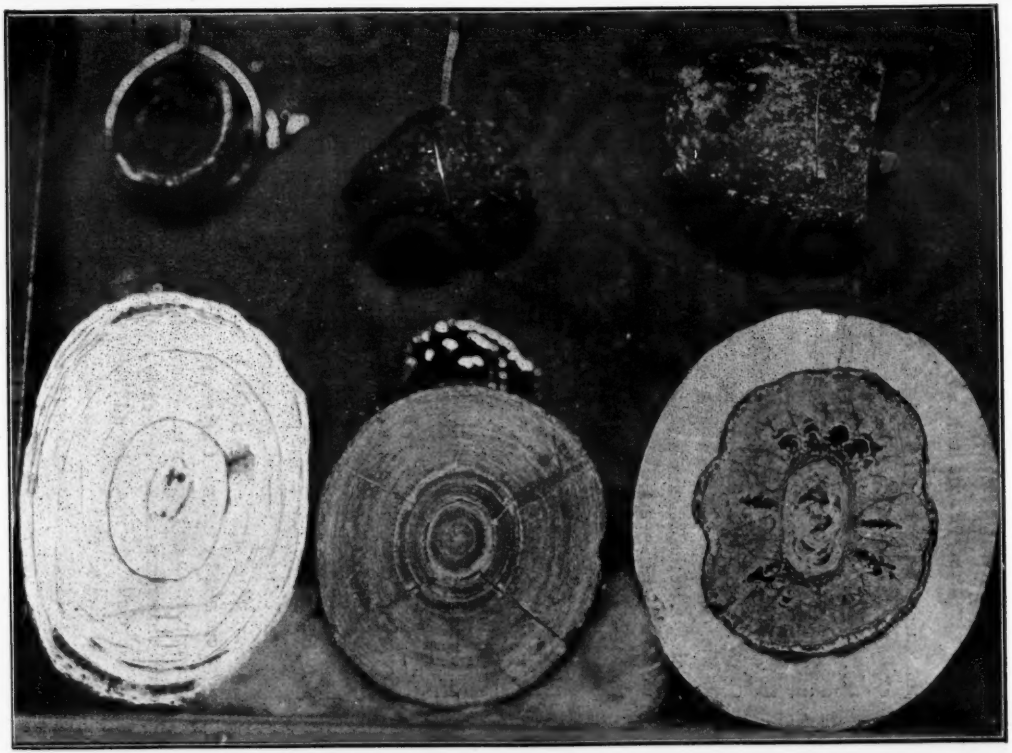
B. Oxalate of Lime Calculus (Renal).

C. Biliary Calculus containing about 90 per cent. of Cholesterin.

D. Section of a Phosphatic Calculus (Vesical). A few streaks of Uric Acid can be seen.

E. Section of a Uric Acid Calculus (Vesical).

F. Section of an Oxalate of Lime Calculus (Vesical).



the effect of the rays on calculi, and is not borne out in every case, as will be seen. By weighing the calculi in air and water respectively, I ascertained their specific gravities as accurately as possible, and found them as follows:—The larger oxalate of lime calculus (F), 1.924; the smaller oxalate of lime calculus (B), 1.780; the uric acid calculus (E), 1.669; the phosphatic calculus (D), 1.555; and the biliary calculus (C), 1.024. Arranged in the order of the highest specific gravity, the greatest permeability to the X rays and the greatest density of the shadow, we find that they do not entirely agree with the law enunciated, thus:—

Specific Gravity.	Permeability.	Density of Shadow.
1. Oxalate of lime.	Biliary.	Oxalate of lime.
2. Uric acid.	Uric acid.	Phosphatic.
3. Phosphatic.	Phosphatic.	Uric acid.
4. Biliary.	Oxalate of lime.	Biliary.

Lime salts appear to hinder the transmission of the rays to a considerable extent, and it may be due to their presence in the phosphatic calculus that we get a deeper shadow than in the case of the uric acid calculus, in spite of the latter having a higher specific gravity than the former. The opacity of bone is due to a similar cause (see below).

A series of plates was prepared to show the effect of "time exposures" of the rays on the calculi. The sensitive plates were crossed by intersecting portions of silver wire for purposes of comparison as regards impenetrability, and the radiographic centre in each case was vertically over the point of intersection of the central wires. In addition to the calculi, a piece of human kidney covered with part of a rib was placed on the sensitive plate. The Plates (III., IV.) illustrating the effects found practically speak for themselves. In Plate III. after an exposure of eight minutes we find the shadows much less distinct than in Plate II., which was exposed for four minutes. Indeed, with exposures of one minute, two minutes, four minutes (Plate II.), eight minutes (Plate III.), and sixteen minutes (Plate IV.), the shadows were found to become gradually fainter, so that in the last Plate (IV.) only the oxalic acid and phosphatic calculi, and the merest trace of a rib are

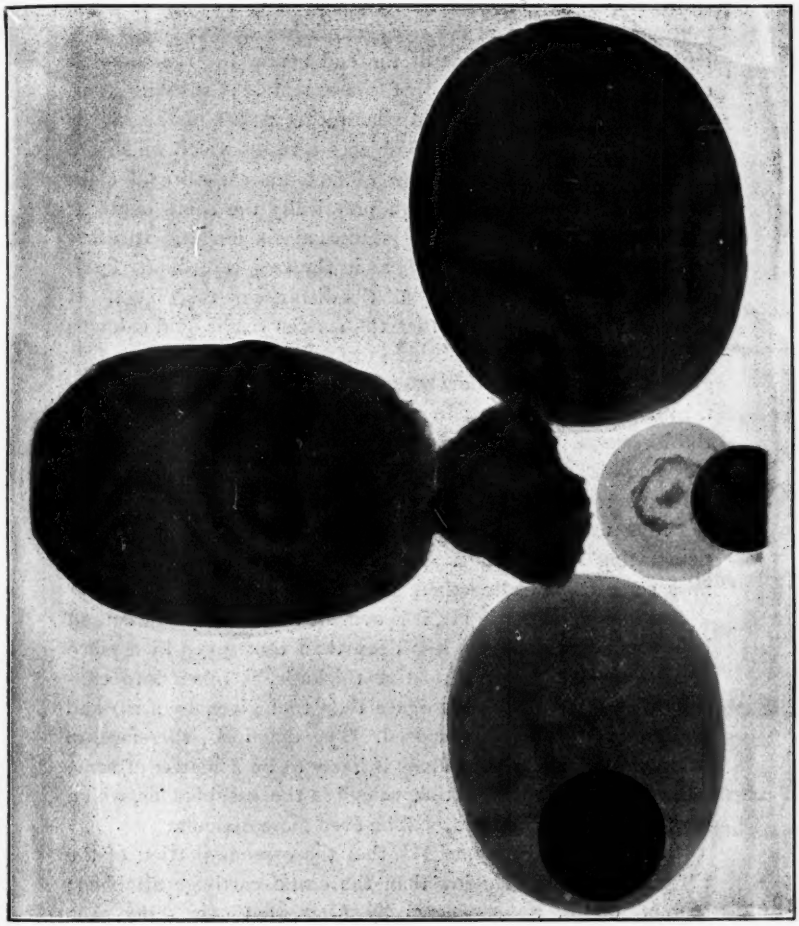


PLATE II.

To show the comparative transparency of the calculi shown in Plate I. after an exposure to the X rays of four minutes. Four coins were placed on the plate to give an idea of absolute density.

B. Oxalate of Lime Calculus.
C. Biliary Calculus.
D. Phosphatic Calculus.
E. Uric Acid Calculus.
F. Oxalate of Lime Calculus.

seen. The edges of the calculi being thinner than their central portions, the shadow at the periphery is less dense: but it may be noted that the shadow at the end nearer the radiographic centre is less dense than that more remote; showing that, other things being equal, the penetrating power of the rays is increased by proximity to the object—a result which we should naturally expect. As a matter of fact, an exposure of eight minutes at twelve inches, gave practically the same depth of shadow as an exposure of two minutes at six inches. In other words the effect of the X rays, as in the case of ordinary light, varies inversely as the square of the distance of the object. It is noticeable in Plate IV. that the smaller oxalic acid calculus (B), which had a lower specific gravity than the larger one (F), gives a less dense shadow (*v. supra*). The lesson conveyed by this experiment is that, in attempting to diagnose calculi by the X rays, a short exposure may give a better result than a long one—a fact discovered in the case referred to later. What we have to find out is the amount of exposure necessary for the rays to penetrate the ordinary tissues without completely penetrating the calculus. If this time be exceeded, we may miss some calculi altogether, as in Plate IV.

On looking at Plate III. it is evident that the shadow caused by a uric acid calculus is less deep than that given by a piece of rib—especially if the relative thickness is taken into consideration—and much less dense than that given by a rib and portion of kidney superimposed. The diagnosis, therefore, of uric acid calculi in the kidney is likely to be a matter of some difficulty; and it follows that calculi in the gall-bladder, which give a lighter shadow still, will be even more difficult.

It can be seen in Plate III. that the osseous portion of the rib gives a deeper shadow than the costal cartilage attached; due no doubt, as suggested by Morris,[1] to the lime salts contained in the bone.

In the above experiments the focus tube was placed at a distance of six inches from the sensitive plates, and the same "developer" (pyrogallic acid) was used in each case. Each negative became "denser" as the exposure was prolonged. It

[1] *Loc. cit.*

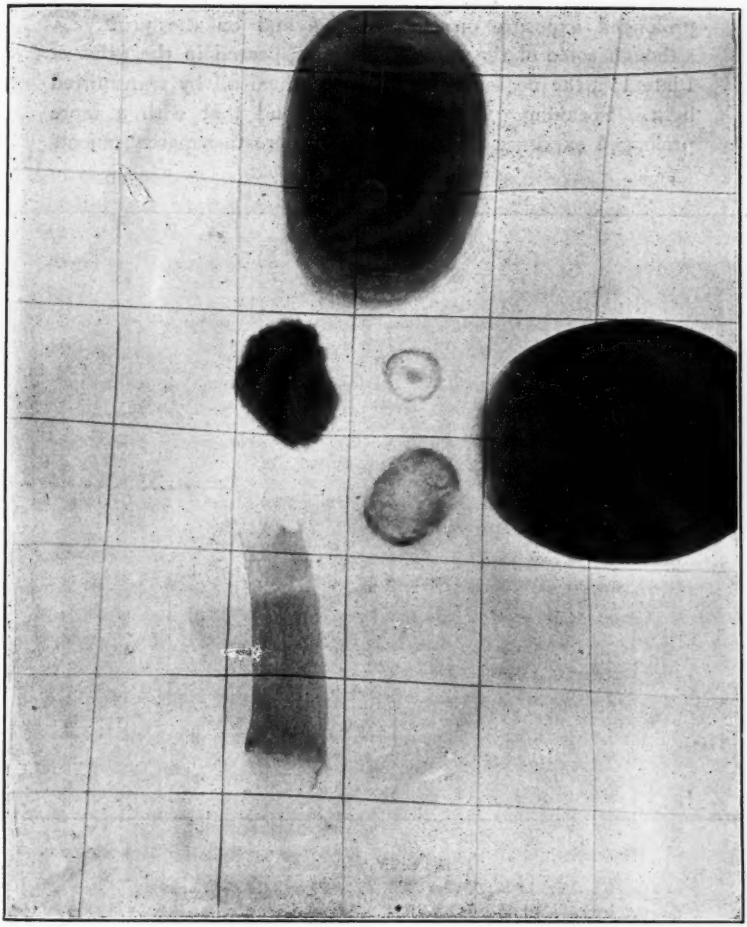


PLATE III. (Reduced).

The effect of the X rays after an exposure of eight minutes.

A. Biliary Calculus.
B. Oxalate of Lime Calculus.
C. Biliary Calculus.
D. Phosphatic Calculus.
E. Uric Acid Calculus.
F. Oxalate of Lime Calculus.
G. Portion of human Kidney.
H. Piece of human Rib.

is important, however, to distinguish between the effects of a prolonged exposure on the negative and on the print, *e.g.* although some of the calculi have disappeared in the print of Plate IV., the negative itself showed them all by transmitted light. Speaking generally, it was found that with a more prolonged exposure the detail of the more transparent objects

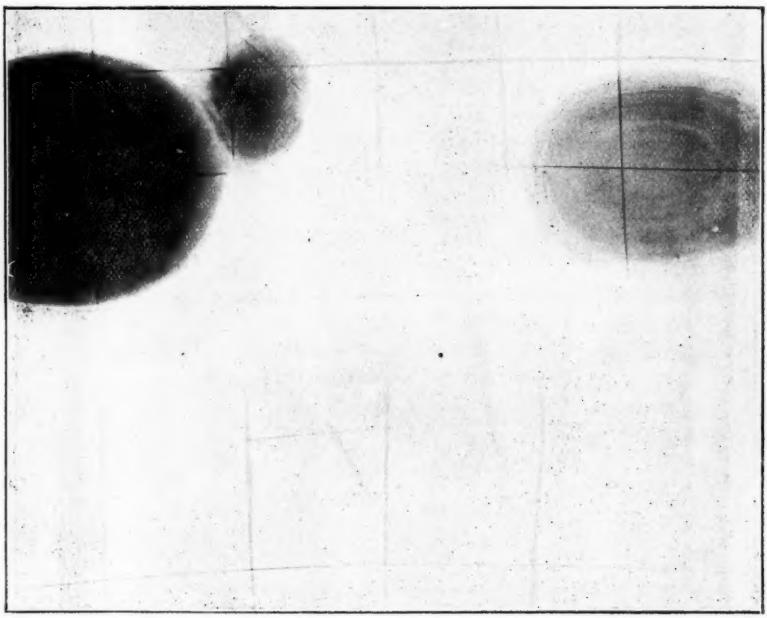


PLATE IV. (Reduced).

The effect of the X rays after an exposure of sixteen minutes.

B. Oxalate of Lime Calculus.
D. Phosphatic Calculus.
F. Oxalate of Lime Calculus.
H. Rib.

became more marked both in negative and print; but at length the negatives, although showing more detail to the eye, became so dense as to be unprintable. This difference between the negative and print was not observable in the plates taken of the living subject,—all these negatives being "thin."

It is, however, desirable to see the negatives in all cases to avoid missing shadows not evident in the print. A new kind of paper has just been introduced which permits of the skiagram being taken on it directly, and so dispensing with the need of an ordinary negative—an advance in skiagraphy which will remove the source of error referred to.

The case in which a skiagram of a renal calculus was obtained in the living subject, previous to operation, was kindly sent to me on August 15th, 1896, by Mr. T. F. Edgeworth, of Cotham. The history is briefly as follows:—

A. C., a rather pallid and spare man, aged 27 years, had suffered for ten years from "colicky pains" in the left side of the abdomen, with the occasional passage of blood in the urine for the first two years. At the beginning of his illness the attacks of pain were frequent, lasting for some hours; but eight years ago they became much less frequent, and continued so until two years ago, since which time the pains have been of almost daily occurrence, and have entirely prevented him from following his occupation of a tailor's cutter. There had been no blood in the urine for the past eight years, except in May, 1896, when he had a transient hæmaturia after running with otter hounds, but he has known that the urine contained albumen "for many years." The attacks of pain commence and end suddenly, and feel like "windy spasms" in the neighbourhood of the left kidney, and are often relieved by the passage of wind "upwards or downwards." The pains go across the abdomen chiefly, but also somewhat towards the pubes and left groin, but he has never noticed any retraction of the testis. Vomiting has occurred once only. "Jolting" does not produce pain.

Skiagrams showed a distinct shadow in the region of the left kidney, but the negatives were too "thin" to permit of a print being satisfactorily reproduced. No enlargement of the kidney could be felt, but examination caused an aching pain in the left loin. The bladder was sounded for stone, but none felt. His weight was 112 lbs. The urine was amber-coloured, clear, specific gravity 1033, slightly acid, and gave a fairly thick precipitate of albumen on boiling. Microscopically, scattered red blood-corpuscles and pus-cells were seen. All over the field were numerous small octahedral crystals of oxalate of lime. No urinary casts were seen, but here and there were large round granular cells which were thought to be degenerated epithelial cells of renal origin.

On September 3rd, 1896, chloroform was administered, and I made an oblique incision in the left loin. The kidney was found to be small and deeply placed, and on the posterior surface at the hilum a hard rounded body could be felt in the pelvis of the kidney. To facilitate manipulation, a piece of silk was temporarily passed through the kidney in order to hold it up to the surface. To avoid going through the pelvis of the kidney (which is often followed by a urinary fistula), and to save hemorrhage from incising a great deal of renal tissue, an incision was made through the parenchyma of the kidney on the posterior surface near the hilum. Hemorrhage was rather free, but was checked by the insertion of the finger into

the wound. The stone, which was about half as large as a walnut, was removed with the finger, and a periosteal elevator used as a scoop. The wound was drained, and dressed with carbolic sponge-cloths.

At first there was a good deal of hemorrhagic discharge through the wound, and the urine passed *per urethram* was of a bright red colour. The temperature never rose above 100.6° F. and urine ceased to come through the wound after the second day. No crystals were found in the urine after operation, all traces of blood soon disappeared, and the patient made a rapid convalescence. On November 21st, 1896, he reported himself as feeling perfectly well, as entirely free from pain, and he had gained a stone and a half in weight.

Although this case was regarded as one of nephro-lithiasis, there were several symptoms that tended to throw doubt on the correctness of the diagnosis. The patient suffered severely from flatulent dyspepsia, and stated that medicine containing bismuth almost always relieved his pain. Symptoms of dyspepsia are common enough in renal calculus, and can be explained by the transference of nervous impulses through the connection of the pneumogastric nerve with the renal plexus; but we do not find as a rule that the actual attacks of renal colic are relieved by such simple measures as a dose of bismuth. Then again he stated that attacks were induced by keeping quiet indoors, and could to some extent be warded off by exercise in the fresh air; no retraction of the testis had ever been noticed; vomiting had occurred only once; and a diet of cucumber or green vegetables (which are known to contain oxalates) would be certain to induce an attack. Such symptoms suggested the possibility of the case being one of simple oxaluria (without calculus) engrafted on chronic Bright's disease. Under these circumstances the shadow found, after the patient had been skiagraphed, was of great value in corroborating the diagnosis of renal calculus. The shadow given after an exposure of thirty-five minutes was not very deep, but with an exposure of twenty minutes the presence of the calculus was made abundantly clear. The importance of a short exposure was subsequently borne out by experiment, and has already been referred to. The skiagrams were taken with a coil capable of giving a spark of nineteen and a half inches, but which was worked at about half its full strength. A slight dermatitis of the abdomen was set up by the exposure to the X rays,—the focus tube

having been placed about twelve inches from the body,—but this disappeared in a few days.

The calculus itself, of which a photograph is shown in Plate I. (B), was of great interest, being one of those rare varieties known as the "white" or "crystalline" oxalate of lime calculus. It weighed 148 grains, and consisted of almost pure oxalate of lime. In shape it was roughly triangular, with mammillated angles, and measured in inches $1\frac{1}{8} \times \frac{7}{8} \times \frac{5}{8}$. The whole surface was studded with large well-formed octahedral crystals, which were easily visible to the unaided eye, and reflected the light over the greater part of the calculus as if it had been studded with broken glass. Two of the angles of the calculus were of a brownish colour, apparently from contact with the mucous membrane which had been made to bleed, but the greater portion of it was greyish white, where it had been washed by the urine excreted, and the crystals freely deposited without staining from any accompanying hemorrhage. Although it is not extremely rare to find a few octahedral crystals on some of the smaller "mulberry" calculi, there appear to be very few examples of such an extensive deposit of crystals as in the specimen referred to. Dr. Perkins,[1] of Ogden, U.S.A., removed a similar one, weighing 82 grains; Lionel Beale[2] says he possessed one which was obtained from a horse, and others are referred to by Prout[3] and Hutchinson.[4]

It will be inferred from what has been said that the skiagraphic detection of this calculus was largely due to its composition, although the patient was below the ordinary age for an oxalate of lime calculus, which belongs to middle life. It is, however, remarkable that oxalate of lime calculi are more common in Bristol and its neighbourhood than in other parts of England. In the classification of calculi made by Richard Smith,[5]

[1] *Ann. Surg.*, 1896, xxiv. 204.

[2] *Urinary and Renal Derangements and Calculous Disorders*, 1885, p. 236.

[3] *On the Nature and Treatment of Stomach and Renal Diseases*, 5th ed. 1848, p. 575.

[4] *Atlas of Illustrations of Pathology*, New Syd. Soc., 1888, fasc. vi.

[5] *A Statistical Inquiry into the Frequency of Stone in the Bladder in Great Britain and Ireland*, 1820.

of the Bristol Royal Infirmary, the frequency of this form of calculus is evident. Prout[1] tells us that nearly 50 per cent. of the Bristol calculi contain oxalate of lime, and that about 16 per cent. of them consist of the salt nearly pure; whereas, according to Beale,[2] only 5.12 per cent. of the calculi at the College of Surgeons; 9.13 per cent. at Guy's Hospital; and 3.16 per cent. in the Norwich collection; are composed of pure oxalate of lime. The reason for this undue proportion of oxalate of lime calculi in this district is difficult to account for.

It is a popular fallacy to suppose that the Bristol water is responsible for the occurrence of oxalate of lime calculi. Like other "hard" waters, it contains a considerable quantity of carbonate and sulphate of lime; but calcium is ingested with many articles of food, and in some of these (rhubarb, cabbage, celery, potatoes, bread, cocoa, tea, coffee, etc.) it exists in combination with oxalic acid. No trace, however, of oxalic acid is to be found in Bristol or any other potable water, and its presence in the human economy can best be accounted for by the imperfect katabolism of the disintegrated elements of albuminous tissues or of an excessive supply of proteid material.[3]

Notwithstanding the qualities which have been attributed to them,[4] it is difficult to assume that Bristolians were so much

[1] *An Inquiry into the Nature and Treatment of Diabetes, Calculus, and other Affections of the Urinary Organs*, 2nd ed. 1825, p. 102. [2] *Op. cit.*, p. 246.

[3] According to M'Kendrick (*A Text Book of Physiology*, 1888, vol. i. p. 167), oxalic acid, apart from its ingestion in food stuffs, in combination with lime, may arise from the incomplete oxidation of uric acid ($C_5H_4N_4O_3$) into mesoxalic acid ($C_3H_2O_5$) which then becomes converted into oxalic acid, thus:—

Mesoxalic Acid. Oxalic Acid.
$$C_3H_2O_5 + O = CO_2 + C_2H_2O_4$$

These views are combated by Dr. Dunlop in an article on "The Excretion of Oxalic Acid in Urine, and its Bearing on the Pathological Condition known as Oxaluria," *J. Path. & Bacteriol.*, 1896, iii. 389.

[4] Byron, in *English Bards and Scotch Reviewers*, ed. 1809, says:—

> "Too much in turtle Bristol's sons delight;
> Too much o'er bowls of rack prolong the night:
> If Commerce fills the purse, she clogs the brain,
> And Amos Cottle strikes the lyre in vain."

Chatterton's disappointment with his fellow-citizens led him to write in *Last Verses*:—

> "Farewell, Bristolia's dingy piles of brick,
> Lovers of Mammon, worshippers of Trick!
>
> "Farewell, ye guzzling aldermanic fools,
> By nature fitted for Corruption's tools!"

more self-indulgent than their fellows, as to account for their exaggerated liability to the "mulberry" calculus.

I have to acknowledge my indebtedness to Dr. Cotton of Bristol—an indefatigable worker in skiagraphy—for many valuable suggestions, and for the excellent plates (I. to IV.) with which this paper is illustrated. The skiagrams which were sent to me with the patient had been previously prepared at University College, under the direction of Prof. Chattock, at the suggestion of Mr. Edgeworth.

THE SYMPTOMS AND TREATMENT OF CHRONIC SUPPURATION OF THE MAXILLARY ANTRUM.[1]

BY

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MY object in bringing this subject forward is to indicate the points in diagnosis and treatment of empyema of the maxillary antrum that have guided me in the conduct of a considerable number of cases of this disease that have come under my observation during the past few years. I have nothing new to say, and since the days of Hunter practically nothing new has been said about it; but I am quite sure, from cases that have come under my care, that the condition is very apt to be overlooked and the necessary treatment deferred. We know how essential it is to drain an abscess cavity efficiently, and that delay in securing this drainage means prolongation of the after-treatment. This is eminently true of suppuration in the maxillary antrum.

In nearly all my cases the patients have come to me complaining of discharge from the nose; in one, however, severe

[1] Read before the Bristol Medico-Chirurgical Society, February 10, 1897.

pain in the head, which had been treated as "neuralgia," was the symptom that led to my being consulted. The principal subjective symptom then is *nasal discharge*, and this presents certain well-marked and characteristic features which, taken together, put us far on the way to arriving at a diagnosis. They are as follows: (1) It is unilateral. This is always observed, if we set aside those very rare cases of double antral empyema. (2) It is pus unmixed with mucus, and it is commonly of canary-yellow colour and quite opaque. (3) It is intermittent in its flow from the nostril. The time of the day when it is most marked is usually in the morning hours—after rising in the morning until midday. During this time the antrum that has filled up during the night empties itself; bending the head as in washing the face, writing, or stooping in doing the various duties of the day, facilitates its escape, so that it will often drip from the nostril, and several pocket-handkerchiefs will be soiled. Later in the day there is always some pus coming, but not to the same extent as during the period ending with midday. The total amount varies in different patients very much, as is the case with all inefficiently drained abscess cavities, where the rapidity of secretion varies so greatly. (4) It is fœtid. The smell is that of sulphuretted hydrogen, and is not so overpowering as the stench of atrophic rhinitis (ozœna), or of syphilitic ulceration and necrosis of bone. It varies very much in different patients, and it is observed in some only at times, *e.g.* in the morning hours when the pus first begins to flow. It is noticed more by the patient than by his friends, and thus differs greatly from the stench of ozœna, where, owing to the sense of smell being destroyed, the patient does not perceive the fœtor. In antral empyema the sense of smell being preserved, the fœtor is a source of much annoyance to the patient.

Pain is another important subjective symptom. This is very variable, both in its situation and its amount, and also in being spontaneously felt or only elicited on examination. It may be felt over the antral region and running up to the outer angle of the orbit, it may be located over the orbit, or it may be complained of over the temple and round the ear. It may be terrible

or slight; it may return at intervals, and thus simulate a "neuralgia," due, doubtless, to tension; or it may be absent. If absent, it may be elicited by pressure or percussion over the antrum or the side of the nose, or it may not be felt under any circumstances.

Leaving the subjective symptoms and coming to the objective ones, we gain a great deal of information by examining the nose and noting carefully the character, position, and behaviour of the pus that is usually found in it. It is canary-coloured and opaque, it occupies the position of the lower border of the middle turbinated body; if we wipe it away with a pledget of wool on a probe, another drop makes its appearance in the same spot; and it usually smells of sulphuretted hydrogen. This latter peculiarity is, in some cases, especially noticed if we press firmly over this region and squeeze it out.

There are two important manœuvres that we ought, at this stage, to carry out. One is to wipe away the pus and ask the patient to place the head on the knees for a few minutes, when it will usually reappear. The other is to place the patient in a recumbent position on the *unaffected* side for ten minutes, when it will reappear if it has previously been expelled. The above characteristics of the flow of pus in a case otherwise suspicious of antral suppuration are almost completely pathognomonic, since they are only found in their entirety where this accessory sinus is affected, and thus serve to exclude all the other accessory sinuses as the source of the discharge. Especially would I lay stress on the behaviour of the flow of pus on altering the position of the patient, seeing that no other sinus, save the maxillary antrum, can empty itself in the positions above described.

There are certain other pathological conditions sometimes found in conjunction with the foregoing essential symptoms, and which must be mentioned.

1. Pus may be seen to be flowing from above as well as below the middle turbinated body. This indicates disease of the anterior ethmoidal cells, as well as of the antrum, and there is probably present *caries*, resulting in breaking down of the thin partition between the infundibulum and the upper part of the

antrum. Direct communication is occasionally found between the anterior and posterior ethmoidal cells and the summit of the antrum; and the partition between the infundibulum and the antrum may be deficient, and thus the contents of the frontal sinus might flow into the cavity below.

2. Cleavage of the middle turbinated.

3. Polypus in the nose. This may be quite extensive, but is usually only in small amount. The growth may have preceded the antral mischief, or may have come later. I think it is a point to be very carefully considered, whether those cases of nasal polypi with discharge of *pus before any attempts at removal have been made* are not usually associated with antral empyema, the latter condition being the source of the purulent discharge. We ought never to omit examination of the antrum in such cases, which are characterised by great obstinacy.

Lastly, there are two other procedures which we may carry out:—

1. Exploring the antrum by means of a Lichtwitz's trocar and cannula, or a curved aspirating needle to which is attached a syringe, either through the inferior meatus after cocainisation, or through the gingivo-labial fold above the second molar tooth. This I have never found it necessary to do.

2. Transillumination by means of a Voltolini electric lamp, placed in the mouth, the tongue being depressed and the patient closing the lips tightly. On turning on a sufficiency of current to bring the lamp to its brightest glow, and the room being completely darkened, the whole face from the mouth to below the orbits is usually lighted up and assumes a bright red colour if the antra be both empty. If there be a solid tumour or a collection of pus in the antrum, then we get a dark spot spreading up from the antral region to below the orbit. If on the other hand there be a cystic growth in the antrum, we see that side to be more brightly illuminated than the other. Undoubtedly this is the rule; but unfortunately there are exceptions met with, and thus some of the value of this method of diagnosis is taken away. The following are difficulties in its use: (1) A large gelatinous polypus in the nose, by causing enhanced brightness, may simulate a cystic tumour in the antrum. When the polypus is

removed and blood-clot occupies the nose, the dark patch may simulate antral empyema. Any obstruction in the nasal passages affects the transmission of light through the antrum. (2) In one of my own cases the dark patch was just as noticeable six weeks after operation, when the discharge had practically ceased and the patient was well, as it was before operation when the antrum was full of pus. This was probably due to inflammatory thickening of the mucous membrane in the interior of the cavity. (3) The dark patch has been observed in atrophic rhinitis, and the antrum was opened and found to be quite normal. From this it follows that this method should be carried out *last* in our investigation of a case; and whilst it corroborates other points in favour of a positive diagnosis if we find the dark shadow, I think we ought not to apply this test at the beginning of our examination and thus bias our minds, as it is not *always* trustworthy, although usually so; on the other hand, it ought never to be omitted in a suspicious case.

We find pus coming from the nose in the following pathological conditions: (1) Purulent rhinitis of children. (2) Atrophic rhinitis (ozœna). (3) Syphilis. (4) Rhinolith, or foreign body. (5) Neoplasm. (6) Nasal diphtheria and tubercle. (7) Disease of the accessory sinuses. Out of this group we get a *unilateral* discharge of pus in the following diseases:—

Syphilis.—Here we see the evident ulceration, usually formation of a sequestrum and frequently perforation of the hard palate. The stench also is more intolerable to the friends of the patient, and is altogether different from what we meet with in antral disease.

Rhinolith, or foreign body.—Here, examination of the nostril and probing renders it easy to come to a conclusion.

Neoplasm.—Polypus with purulent discharge preceding operation is often merely an accompaniment of antral empyema. Growth in the antrum, if solid, is usually malignant, and gives us other signs of its nature, such as distension of the cavity, bleeding, &c.

Disease of the other Accessory Sinuses.—This is the only condition that presents real difficulty, and we must rely on the follow-

ing diagnostic points: (1) Anterior ethmoidal cells. The pus is seen to be dripping down over the middle turbinated body from above, and often the probe enables us to discover caries of the bone, with roughening of its surface, &c. (2) Frontal sinus. Whilst acute inflammatory mischief often attacks the frontal sinus, we rarely see chronic pus formation occur, and then only when the duct is blocked, when we get external manifestations over the brow that guide us. Transillumination here is very valuable. (3) Posterior ethmoidal cells and sphenoidal sinus. The discharge of pus from these sinuses is into the naso-pharynx and not into the nose.

Lastly, the effect on the discharge of pus into the nostril of the position of the patient is extremely important to bear in mind. When lying on the unaffected side, or with the head placed on the knees, only the maxillary antrum has its duct so placed as to enable the cavity to empty itself, and thus we can separate disease in this sinus from that occurring in all the others.

It is a matter of great difficulty to arrive at a *positive* diagnosis of suppuration in the antrum; therefore every point must be carefully considered, and in its logical sequence, and it is always a relief to the operator to find a stream of fœtid pus come from the affected nostril after operation and syringing.

Treatment of the condition means securing drainage of the abscess cavity. If there be polypi, hypertrophic rhinitis, deformity of the septum or any obstructive lesion present, we ought to deal with this first, in order to render the orifice from the antrum into the nostril normally patulous. Cleansing and astringent nasal washes and sprays are also useful in this direction. But it is only rarely that spontaneous cure takes place, especially if the trouble is of long standing, and then we must resort to operative treatment to secure drainage. I always use Charters Symonds's antrum drill, which I have had slightly modified by removing the small nut that secures the drill to the handle, as I have found it in the way. I have, in all the cases on which I have operated, drilled through the alveolar border, after removal of a stump by a dentist; and if cocaine be injected, it is an almost painless operation. I think it is a matter of

indifference what point we select for drilling, from the first premolar to the second molar; but if I find the first or second molar tooth decayed or gone, I would use that situation and drill vertically through the alveolus into the cavity. If we use the position of either of the premolars, and especially the first one, we ought to incline the drill slightly backwards and upwards. Usually there is very little bone to be gone through; but in one of my cases I found quite a considerable thickness, and had some trouble to bore through it, and this where a sound molar was extracted. In all my operations but one, the teeth in the upper jaw have been very defective; where there is no damaged tooth in the proper situation it is recommended to bore through above the second molar and thus save the teeth intact. After the operation I insert through the wound a Eustachian catheter or some such metal tube, to which is attached a piece of india-rubber tubing, to which is, in turn, attached a syringe. On syringing warm boric lotion through into the antrum, our diagnosis is verified by seeing a stream of fœtid pus pour out of the nostril. In order to keep the wound in the gum open, I get the dentist to make a silver tube which can be clamped to a convenient tooth, and thus remain fixed in the hole made by the drill, and which I tell the patient to remove two or three times daily, to then pass a small tube with indiarubber tubing and syringe attached to it into the antrum, and to syringe warm antiseptic lotion into the cavity. The dentist's apparatus must always be worn until the conclusion of the case, or the soft parts will close.

It does not matter much what antiseptic we select to make the syringing solution, *e.g.*, sulpho-carbolate of zinc, resorcin, hydronaphthol, boracic and carbolic acid, and if the case drag on a long time, as sometimes occurs, nitrate of silver or tincture of iodine. Some patients are well in six to eight weeks, others not for a year or more.

Some operators make a large opening through the canine fossa, and scrape out all polypoid growths that are found in the antrum, and then pack the cavity with antiseptic gauze, in the obstinate cases. This I have never done, though I have seen several cases in the practice of other operators. Others again

push a curved Krause's trocar and cannula through the inside wall of the antrum in the inferior meatus, after cocainisation, and syringe through this opening. I have seen cases in which this has been done, but cannot believe that it is usually commendable, as we do not get nearly to the bottom of the cavity in this way. Others use Mikulicz's spear-shaped knife for the same purpose. But, after all, the time-honoured practice of drilling through the alveolar border, or above it, will be found to be the best procedure, and in most patients to be a thoroughly satisfactory one.

After the reading of this paper, Mr. W. H. HARSANT expressed his interest in the subject so ably treated by Dr. Baron, and agreed with him in his remarks as to diagnosis and treatment. He had generally observed a carious tooth in these cases, and was inclined to attribute the cause to this source in a large proportion of cases. He generally advised the removal of one of the upper teeth, and the insertion of a small plate with a silver tube attached, so that the patient could remove it daily and freely irrigate the cavity. Some cases were undoubtedly very chronic, but in the large majority a cure was effected in five or six weeks.

SECONDARY RASHES IN SCARLET FEVER.

BY

J. O. SYMES, M.D. Lond.

SECONDARY rashes during the convalescent stage of scarlet fever are by no means of uncommon occurrence. They are not to be confounded with the true relapse in which the patient passes again through the stages of vomiting, sore-throat, strawberry tongue, rash, and desquamation. Such relapses are said to occur as frequently as once in every two hundred cases, are most common during the second or third week of the illness, and are seldom severe in character. The eczema consequent upon irritating discharges from the nose or ears, and which frequently in children results in impetigo, is as a rule, unless indeed it spread to the head, easily controlled.

Dr. F. F. Caiger[1] found eczema to be present in 3.3 per cent. of 1,008 cases. The true secondary rashes, however, are of more importance, as they frequently indicate the commencement of a period fraught with grave danger to the patient. Cases of exceptional severity were reported by Mr. Manning in his article in the *Lancet*, August 13th, 1892, entitled, "The Skin Eruptions which occur in Septicæmia following Scarlet Fever and Diphtheria." This complication was present in 2.1 per cent. of 6,000 cases, and in 4.8 per cent. of the children under five years of age. The rash was at various times papular, blotchy, or macular, and almost invariably associated with sloughing of the fauces, wasting, and a rise in the temperature. The attacks which commenced during the second and third weeks of convalescence were in many cases fatal. As is indicated in the title of Mr. Manning's paper, there would seem here to be an element of septic poisoning derived probably from the throat, and in this point the cases differ from those recorded below, with which otherwise they have much in common. These came under my observation while I was in residence at the London Fever Hospital. Secondary rashes may be erythematous, urticarial, eczematous, papular, or hemorrhagic. The following cases are illustrative of these varieties:—

CASE 1.—Commenced with vivid rash, much membrane on fauces, and delirium. On the 18th day there was an erythematous rash covering trunk and arms. (20th day) Rigor, vomiting, adenitis, trace of albumen in urine. The temperature fell after seven days, and recovery was satisfactory.

CASE 2.—On 10th day of illness had slight return of tonsillitis, which subsided. (26th day) Erythema on chest, vomiting, tonsillitis, albuminuria, fever. The rash was visible for forty-eight hours, and the temperature remained up for four days. Recovery complete.

CASE 3.—Had severe tonsillitis. On 15th day erythema covered chest and abdomen. (18th day) Urticaria, chiefly on arms and legs. Some painful enlargement of cervical lymphatic glands. No rise of temperature.

CASE 4.—(17th day) Adenitis, with rise of temperature. (20th day) Urticaria. The rash was troublesome for twenty-four hours, but never returned.

CASE 5.—Initial throat affection severe. (12th day) Trace of albumen in urine. (14th day) Tonsillitis. (16th day) Eczema over bony prominences of knees, elbows, ankles, and scapulæ. No rise of temperature. Convalescence delayed by continued slight albuminuria.

[1] *Lancet*, 1891, i. 1249.

CASE 6.—On 18th day there was eczema on legs and inner side of knees, and during three days previously a trace of albumen in urine. (23rd day) Tonsillitis, nephritis, fever. (47th day) Erythema on trunk and arms. Convalescence delayed until 73rd day.

CASE 7.—The initial rash was finely vesicular, and irritating. The fauces were very little congested, and showed no exudation. (14th day) Slight puffiness over cervical lymphatic glands was noticed. (18th day) Dull red papules on extensor surfaces of arms and legs, most marked at flexures of joints, and spreading between the fingers. On pressure, faint punctate hemorrhagic spots were left. There was no irritation of skin. (20th day) Headache and albuminuria. The rash did not disappear until the 32nd day, and in the interval had become blotchy. Slight rise of temperature.

CASE 8.—The commencement was marked by severe tonsillitis and rheumatism. (24th day) There appeared a papular rash on extensor surfaces of arms, legs, and thighs, and upon the back. It extended on the following day between the fingers and to the soles of the feet, and gave rise to much itching and discomfort. The appearance of the rash was accompanied by a slight rise of temperature, and there was a faint cloud of albumen in the urine from the 14th day.

CASE 9.—Rheumatism and much exudation on the tonsils during early stages. Trace of albumen on 6th and subsequent days. (17th day) Headache, pyrexia, nephritis. (20th day) A red, hard, papular rash on extensor surfaces of arms and legs, and on chest. Much itching. This extended to the hands and feet, but by the 23rd day had disappeared. (60th day) The rash returned, the quantity of blood and albumen in the urine increased, and adenitis commenced. Convalescence was completed on the 89th day.

CASE 10.—Much exudation on fauces, accompanied by adenitis. On 52nd day, when recovery was apparently completed, an erythematous rash appeared on chest, some raised red papules and minute purpuric spots upon the limbs. There was no adenitis, albuminuria, or rise of temperature. On 59th day there was severe vomiting, but no further complications arose.

Most of the rashes appeared in or about the third week of the illness, and almost invariably in those patients in whom the initial throat symptoms had been of more than average severity. Although the appearance of the skin-lesions frequently coincided with a recrudescence of tonsillitis, it does not seem likely that they were the result of septic absorption from the fauces. In some of the cases no tonsillitis was observed; in none of them was there ulceration or sloughing; whilst in others the rash preceded the appearance of tonsillar trouble. The more probable explanation would appear to be that there is about the third week a critical period during which certain products of the disease are being eliminated, and that in this process the organs engaged are liable to suffer. In the digestive system such disturbance is marked by diarrhœa and vomiting, and in

the kidneys by nephritis and albuminuria, the latter of so slight a nature, perhaps, as to be disregarded. The lymphoid tissue of tonsils and the lymphatic glands are noticeably excitable, and as we should expect, that great excretory organ, the skin, is frequently affected. The septic rashes described by Manning were accompanied by much wasting, and the mortality was very high. None of the cases described in this paper ended fatally, nor was there wasting or other symptom usually associated with septicæmia. Mahomed observed that in scarlet fever there were certain changes which were of constant occurrence between the 18th and 22nd day of the illness. Such were, a rise of arterial tension, a diminished excretion of urine and urea, a rise of temperature, albuminuria, otorrhœa, adenitis, and diarrhœa. He makes no mention of secondary rashes, and indeed the subject has received but little attention. There can, however, be no doubt that their presence is far from uncommon; they would be still more frequently observed were they diligently enquired for. The rash is so frequently the precursor of grave complications, that great importance should be attached to its detection. By so doing we are enabled to change the diet and habit of life of the patient, and by a free use of such drugs as calomel and acid tartrate of potassium we may hope, as Mahomed has shown, to ward off or minimise a threatening attack of nephritis, or other complication.

Erythematous, urticarial, and purpuric rashes are frequently seen in scarlet fever complicated by acute rheumatism; but in the above series of cases rheumatism was only noted in Nos. 8 and 9. The eruption in the last four cases reported closely resembled "urticaria papulosa." Small crops of papules showed a tendency to run together, and on pressure the colour faded from the circumference of the papule, showing a minute red spot in the middle.

In each case the management had been similar, the patient being allowed to rise on the 10th day, and put on a meat diet at the end of a fortnight. From many reasons it would not seem likely that such management was in any way responsible for the subsequent complications. Chill is no longer commonly regarded as a serious factor in the causation of nephritis.

Patients frequently become dropsical and albuminuric whilst still in bed, and there is no reason why chill should act more potently at one time (*e.g.* 18th—21st day) than at another. Mahomed's observations were made on patients who were kept in bed and on a milk diet for twenty-one days. Caiger, however, found that eczema was more common amongst the patients on a full meat diet. These facts would point to the conclusion that the occurrence of complications is uninfluenced by the length of stay in bed or by the quality of the diet. There is during the latter half of the third week a critical period during which certain products of the disease are eliminated, and during the process of excretion these bodies may excite various pathological conditions in lymphatic tissues, kidneys, and skin. The appearance of various rashes, especially that resembling "urticaria papulosa," is often the first indication of the onset of more serious complications, and thus affords us an early opportunity of commencing treatment with a view to their prevention or mitigation.

THREE CASES OF VAGINAL HYSTERECTOMY FOR MALIGNANT DISEASE.

BY

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UNFORTUNATELY in the majority of cases of malignant disease of the uterus which are met with, the growth is so far advanced that it is quite hopeless to attempt anything in the way of a radical operation, and one has to be content simply with palliative measures. Under these circumstances it occurred to me that it might be interesting to record the three following cases which have been successful, and up to the present time

[1] Read at the January meeting of the Bristol Medico-Chirurgical Society. The discussion on the paper is reported under "Meetings of Societies."

are all doing well. If the operation of vaginal hysterectomy is as successful as is claimed by Jessett and others, who have operated now upon a very large number of patients, then it becomes the duty of every medical practitioner to be on the look-out for any of the early signs of malignant disease of the uterus, in order that the operation may be undertaken before the disease has spread into the broad ligaments.

I will give short extracts of each case; and I am greatly indebted to my two clerks, Mr. Foss and Mr. Moorshead, for their very interesting and voluminous notes, which are too long to be reproduced in full:

CASE 1.—S. B., aged 29. No history of cancer in the family, except one distant relative on the mother's side. Was married at 16 years of age, and at the age of 21 had had five children. Between the ages of 21 and 29 she had two miscarriages. She was admitted on May 18th, 1896. The history of any uterine trouble dated from the previous September; from this month she gives notes of pain, various irregular hemorrhages, getting thinner, offensive discharge between the hemorrhages, and every week she was getting more markedly anæmic. On admission the hemorrhage was so great that she was plugged with gauze.

After consultation with my colleagues, I performed the operation of complete hysterectomy on June 9th. I used Jessett's needle and ligatured the broad ligaments on each side with silk, not using any clamp at all.

Three days after the operation she had a considerable amount of peritonitis and appeared to be in a very critical condition; but under appropriate treatment this subsided, and she was discharged well on July 25th.

CASE 2.—F. S., aged 38. Admitted to the General Hospital on June 9th, 1896. No history of malignant disease in the family. Married twice, first at the age of 17, and has had ten children in fourteen years. She was a widow for seven years. She also had three miscarriages. She has complained of pain for the twelve months before admission, and seven months ago she was confined with twins. For the last month only has she complained of irregular hemorrhage. During the last month the bleeding has been so great as to cause her to faint, and she has also kept her bed during that time. On admission she was markedly anæmic from the great loss. She was found to have an extensive malignant growth of the cervix, but it had not involved the broad ligaments.

On June 18th, after consultation, I removed the whole of the uterus *per vaginam*, again using Jessett's needle, and ligaturing each broad ligament with strong silk. The uterus was studded at the fundus with small growths.

This patient also on the third and fourth days after the operation had a considerable amount of peritonitis; but it subsided, and she was discharged well on August 7th.

CASE 3.—E. A., aged 39, was sent to me for operation from Devonshire. She was admitted on September 18th, 1896. No history of cancer in the family. Married at the age of 21, and has had ten children in eighteen years. Six years previously, when pregnant with her eighth child, she noticed that she had irregular hemorrhage up to 4½ months. Also while pregnant with her last child (which was born five months ago) she had a hemorrhage every month during the last six months of pregnancy. She had very considerable hemorrhage at the birth of the child, and has hardly been clear for one day since; she has also noticed that the discharge is most offensive. She was found to have malignant growth of the cervix extending on to the posterior vaginal wall for some distance.

On September 24th, after consultation, I removed the whole uterus *per vaginam*, using Jessett's needle, and ligaturing each broad ligament. After removal it was noticed in this case that the coils of intestine were in full view, whereas in the first two I had not seen them.

This patient had no signs of peritonitis after the operation, but made an uninterrupted recovery; she had no rise of temperature, and was able to take solid food more quickly than either of the preceding patients. As my clerk properly says, she was most cheerful and tractable, recognising that quietness was an essential part of the treatment. She was discharged well on November 19th.

What are the points for discussion that may be raised on the three cases just read? I think there are three very interesting ones.

(I.) The operation itself. Is it justifiable? That it can be done successfully there can be no doubt, but will the disease recur? Time alone can answer this question. There is no great difficulty about the operation, but at the same time I do not envy the beginner his first vaginal hysterectomy.

(II.) Is it better in these cases of disease of the cervix only to remove the whole uterus, or to do supra-vaginal amputation? There are many and various opinions on this point; but I have seen so many cases of recurrence after the minor operation, that I am at present strongly in favour of the major one.

(III.) Is there any reason to account for such an early development of malignant disease? Here we have three young women of 28, 38, and 39 respectively, all married very early in life: the first has five children between 16 and 21 years of age; the second is married at 17 and has ten children in a comparatively short time; and the third, although not married quite so young (21), still has ten children very quickly. Is it possible that very early and very frequent child-bearing may have a tendency to produce development of malignant disease in the uterus?

TWO CASES OF COMPOUND DEPRESSED FRACTURE OF FRONTAL BONE.

BY

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I THINK that the two cases I am about to briefly narrate will be found interesting, the most important point about them being the somewhat unexpected recovery of the patients,—one after going through the risks of a bad accident, two trephinings and a tedious hernia cerebri, and the second after having had the lower half of his frontal bone kicked in.

CASE 1.—W. H., a boy 13 years old. On December 12th, 1895, about 6 p.m., as he was stepping off the pavement, he received on his forehead a blow from the shaft of a baker's cart which knocked him down. He remembers being driven to the Infirmary and being carried to the ward, and was able to give his name and address; and he recognised his father about an hour later, but afterwards he lapsed into semi-consciousness, and was in that state when I saw him between 9 and 10. He was then restless, and had vomited; there were no twitchings or convulsions; pupils were equal and reacted to light; there was no bleeding from nose or ears. I found a depressed fracture of the frontal bone, with a wound near the middle line just above the nose, the wound being vertical in direction and 1½ inches long. The patient was put under chloroform, and I made an incision horizontally for about two inches on each side from the lowest part of the wound, and turning back the flaps, I found a stellate fracture radiating from the glabella and extending above the left orbital plate further than on the right side, the most central part being most depressed. I trephined with a medium-sized trephine just to the left of the middle line and elevated satisfactorily the whole of the depressed bone. The crista galli and the superior longitudinal sinus prevented my passing the elevator right across the middle, but the fragments on the right were movable, and when I left the patient I thought all was tolerably level. The dura mater apparently was not broken.

Next day patient was comfortable and conscious. He vomited once, but there were no signs of intra-cranial mischief; the pins which I had used to check hemorrhage and bring together the wound, and the drainage tube, were removed.

During the ensuing week headache, high temperature, and delirium with great irritability came on, and on the 20th, one week from the time of the accident, he had a distinct fit which lasted twelve minutes; the twitching began in the left arm and left leg and the face worked all over. His left eye squinted upwards and inwards. He had another fit in the night, the left side again being chiefly affected.

Next day I trephined him on the right of the middle line just above the orbital plate. The dura mater bulged and at one part appeared almost yellow. I passed a hypodermic needle in, and as I only withdrew a few drops of serous fluid, I made a crucial incision through the dura mater. No pus could be found, and I stitched up the wound in the dura mater and left drainage tubes in the external wounds.

He improved immediately after the operation, and a week later all sutures were removed, and patient was so far recovered that he was found to be sitting up in his bed beating a toy drum—a proof that there were no signs of meningitis. The wound on the right side, however, did not heal soundly, granulations sprang up in it and pus in considerable quantity manifested itself. A hernia cerebri now gradually developed in the wound, commencing about the ninth day after the second operation, and it increased in spite of all we did to suppress it. A pad was made of a watch-glass filled with plaster-of-Paris, and kept on by an elastic bandage outside the lint and under the wool dressings that covered the wound; iodoform, boric acid, and other antiseptics were tried, and the hernia was once shaved off. This consisted microscopically of a meshwork of processes of cells containing small cells—neuroglia chiefly and granulation tissue—but there were no distinct nervous elements found.

The treatment was unsatisfactory; the hernia grew again, and the patient showed signs of considerable irritability, although his bodily health somewhat improved.

A month after the second operation I resolved to try and cure the hernia by operation. I made a clean oval cut round the hernia through the much-thickened skin of the forehead, and removed the granulation tissue all round the growth. Then I shaved off the hernia and brought together the longer sides of the wound by harelip pins, putting in a very small drain. This plan succeeded very well, and the wound was firmly healed in ten days, but the area where the hernia had been remained soft for some time. I kept a vulcanite plate for almost six months on it for protection, and the boy was able to go to school; and for the last few months he has been without any apparatus, and is able to help his father in his work.

Case 2.—A man, aged 22, by occupation a butcher, but who occasionally acted as stableman was seen to be taking home a horse after a performance at Carré's circus, and was seen to unmercifully beat it. Nothing more was seen till he was found lying at the heels of the horse in the stable with his head much injured. He was roused and with help walked to the Infirmary, and was admitted about 11 p.m. He was conscious and stated that a man whom he did not know threw a brick at him, which struck him on the forehead and he fell under the horse.

When I saw him very shortly afterwards he was lying on the operation table, with the lower half of the frontal bone completely driven in. There was a much-contused wound just above the bridge of his nose, and another communicating with it across the forehead about the size and shape of the front part of the shoe of a horse. There was brain-matter protruding from both sides of the wound, so that both hemispheres were lacerated, the superior longitudinal sinus was torn, and considerable bleeding resulted. The patient vomited much blood, and blood came from his right ear and freely from his nose. The disfigurement was further increased by a huge swelling at the angle of the jaw, but this I subsequently learnt was of old standing. So terrible did his injuries seem that I doubted for a

minute whether to touch him or leave him to die, but I chose the former alternative. I made an incision nearly from one external angular process to the other and a medium one up the forehead, and having stopped external bleeding, trephined the left side of the frontal bone just above the fracture, and I sawed off a long point of the squamous portion of the right temporal bone that was presenting and which could not be replaced. By these means I had room enough for the elevator to raise all the depressed bone; with my finger I removed brain-matter that was crushed and protruding from the ruptured dura mater on either side. The superior longitudinal sinus bled freely. Having elevated the bone and having pushed back as well as I could the squamous portion of the right temporal bone, I brought the skin together by numerous fine harelip pins and put in several drainage tubes, and packed the forehead in absorbent wool and sent the patient back to bed.

Next day he was perfectly conscious, but had very great pain in the head, which was relieved by morphia. There was discharge of blood-stained cerebro-spinal fluid from the right ear, the vomit was tinged with blood, and there was copious discharge from the nose. He remained in this state for several days, drinking milk readily; and cerebro-spinal fluid came freely from his nose and ear. The only cerebral symptom was slight delirium in the evening after there had been a necessary visit from the police to enquire into the charge the patient had made against his assailant.

On the fourth day when taking out some of the pins I occasioned free arterial hemorrhage, and I had to stop it by inserting another pin under the vessel.

A week later, eleven days from the day of the operation, the wounds were nearly healed. A small amount of pus came from the granulations at the lower end of the middle wound, where the greatest crushing of the soft parts was.

The patient got up on the twentieth day; and went out four weeks after the accident, against advice. All wounds had healed, and he said he felt quite well and had no headaches. He seemed perfectly rational. There are soft and pulsating areas on his forehead, on which he has been cautioned that a blow might be very serious.

Such is the history of my two patients, and I bring them forward because I believe in the advantage of mentioning details of cases. I have very little comment to make. At one period in each case I was almost hopeless that the patient would recover.

In the first case the bad prognosis with which all cases of hernia cerebri are connected, and the apparently futile attempts which I made to cure it by means of pressure and antiseptics, gave me very little hope of the patient's life. A plastic operation, such as succeeded in this boy, is what I shall recommend in the future. It is an interesting point to make out why hernia cerebri occurred in one and not in the other of my two cases. Was it that in the case of the boy the wound that I made in the dura mater at the second operation became septic from an

unhealthy condition of the first wound? or was it that in his case the wound in the dura mater was small as compared with the larger lacerations in the other? I am inclined to think that the aseptic course run by the healing of the wounds in the man's head had most to do with the non-appearance of a hernia cerebri.

The severity of the injury in the second case, the large portion of bone that was driven in, with crushed brain-matter escaping from at least two places, the long point of the squamous portion of the temporal that was protruding,—these injuries, in addition to the sure signs of extensive fracture of the base, made me doubt whether it was of any use trying any operation at all. I may be criticised for my opinion, but I think his recovery was in a great measure due to the very free bleeding that occurred before and at the time of operation, and which continued through the drainage tubes into the dressings afterwards.

A CASE OF HYSTERICAL DISEASE OF BOTH HIPS AND BOTH KNEES, WITH EXTREME DISTORTION OF THE LOWER LIMBS.

BY

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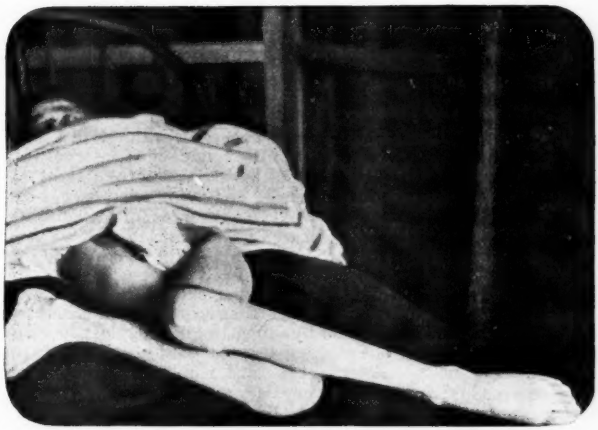
THE following case is a remarkable instance of the mimicry of joint-disease in hysteria. For three years the patient was under the treatment of various surgeons for organic disease of the hip, and yet when the true nature of the affection was recognised she was cured in less than three months. The affection for more than two years was confined to one hip, and was considered to be certainly tubercular in nature, and the treatment adopted was the ordinary one for such a condition—absolute rest, with splint and extension. Moreover, repeated examination of the joint under an anæsthetic failed to reveal its true nature.

V. J., aged 19, came under my care at the Bristol General Hospital on November 1st, 1896. When 9 years of age she had been in a large provincial hospital with "disease in the left hip-joint." She had extension applied for three months, but no splints, and then recovered. When 12 years of age she was re-admitted for the same trouble, and then had a long splint and extension applied for six months, and at the end of that period was sent home in a Thomas splint. The third attack came on when she was 16, with pain in the same joint, which prevented her walking. At first the limb was not drawn up or fixed in any abnormal position, but it soon became so, and she was an in-patient at the same hospital (where she had been as a child) during the years 1894 and 1895, and was supposed to be suffering from tubercular disease of the left hip-joint. Twice the limb was straightened under chloroform, and a splint and extension kept constantly applied. She was sent home in a Thomas splint in January, 1896. Two months after she returned home pain set in in the right hip and in both knees, and the right lower limb became drawn up, and both more deformed. A suspicion of phthisis at the right apex tended to strengthen the opinion of her medical attendant that the disease in the joints was tubercular. In April, 1896, the left lower limb was straightened under chloroform and put up in a long splint with extension, but the splint was removed later and the limb became again distorted.

When she came under my care her limbs presented the appearance shown so well in this photograph, taken by my dresser, Mr. Aubrey.



So great was the distortion that it seemed marvellous that the limbs could assume such a position, and I had difficulty in persuading some of those who saw her that there was no actual dislocation of the right hip. The position which the limb assumed was not possible with a normal hip, and the extreme rotation inwards, which enabled the inner side of the leg to lie flat on the bed in the flexed position of the knee, could only have been gradually produced by ever-increasing relaxation of the ligaments of the hip. The position of the limbs may be thus

described: Marked flexion of both hips, obscured by lordosis, and thus not represented in the photograph. Extreme adduction of both thighs, with internal rotation. The internal rotation of the right was so great that the trochanter lay in a vertical line with the anterior-superior spine. The left knee was flexed to a right angle, and the right was much more flexed. Both hips and knees were absolutely fixed, and any attempt to move them gave rise to expressions of great pain. The muscles of the limbs, especially the left, were greatly atrophied, and consequently the articular ends of the bones were apparently enlarged, but were not really so; neither was there any sign of pulpy thickening about the knees or of deep swelling about the hips, nor of increased heat over the joints. Moreover, grasping the tuberosity of the ischium, or other fixed point of bone, gave rise to as much pain as did any attempt to move one of the affected joints. It also seemed to me quite unlikely that, if tubercular, the disease could have existed in the left hip-joint in an active form for three years without leading to abscess.

She had what I can only describe as a neurotic expression, but there were no other manifestations of hysteria in the form of local anæsthesia or globus hystericus, nor was there any family history of neurotic ailments.

I decided to treat her for hysterical disease. On November 5th chloroform was administered. Directly she went under, the muscles of the lower limbs relaxed, and they fell into a much more normal position, and manipulation easily rectified the remaining deformity. No grating was discovered in any joint. A few adhesions gave way in the knee-joints on fully extending them, and the ligaments of these joints were found so relaxed that lateral movement of the articular surfaces was found possible to a considerable extent. I applied short back splints behind both knees to prevent flexion, and put 5 lbs. extension on each lower limb to prevent flexion or adduction of the thighs.

She did not suffer much pain in the joints after she came out of the anæsthesia. A little painless effusion occurred in the right knee, and lasted for a fortnight. There was a little tendency to internal rotation of the right hip, but this was rectified by increasing the weight on that limb to 7 lbs. Massage of the muscles of the lower limbs was at once commenced. She took a hopeful view of her condition and seemed to believe she would soon be walking about again, though we found it impossible to persuade the mother that this might be so. She was not isolated.

A month after the administration of the chloroform I removed the splints and moved all the joints. I then persuaded her to try and move them, and she did so, and by supporting her by the arms we held her up on the floor and she shuffled her feet along. The splints were not re-applied, but the Sister of the ward, who had a most beneficial influence over her, got her up every day, and she soon began to walk. The massage was continued, and by the end of the year she could walk slowly but steadily about the Hospital, and the muscles of the lower limbs had considerably increased in bulk. The flail-like condition of the right knee had passed off, but there was still some lateral motion possible in the left. There was no pain in any joint and no tendency to distortion. She was discharged on January 23rd.

One difficulty which presented itself in the treatment of this case was to prevent recontraction of the limbs after the straightening under anæsthesia, on the one hand, and the

possible fixation of the limbs in the straight position on the other. I felt that if we did not fix the limbs in the straight position, but tried to get her to stand and walk directly she recovered from the effects of the anæsthetic, recontraction was exceedingly likely to occur, and then all further attempts would be impossible; whereas if her limbs did become rigid in the straight position, we could still put her on her feet and encourage her to make an effort to walk. Happily no rigidity set in while the splints and extension were employed, but the muscles began to develop with the massage, and the result was most satisfactory. Had we been less fortunate, I should certainly have insisted on isolation. The relaxation of the ligaments and the slight adhesions in the knee-joints were certainly the result of the long-standing extreme deformity produced by muscular contraction and the fixation of the joints. There seems to me little doubt that the two earlier attacks of "hip disease" were also hysterical. They were in the same hip, first and for so long affected in the third attack.

Progress of the Medical Sciences.

MEDICINE.

It is natural and justifiable that thinking members of the medical profession should look with critical eyes upon any description of a disease that is assumed to be new. Especially is that the case with an infectious disease, and many experienced practitioners will be loth to believe that still another specific fever exists, and may have passed unobserved under their notice. When, however, we read such a description, if we cannot convince ourselves that its originator has been misled by some unusual features of a previously known disease, it behoves us to bear his facts in mind, and to be on the watch for opportunities to test their value. Brief notice will be given here of the disease described during the last few years as **glandular fever**, and I trust that the readers of this *Journal* may, after noting the few points mentioned, consider whether some of their patients may not have been recently suffering from a disease which answers to the description. In 1889 an infectious disease occurring in children was described by Pfeiffer, in which the most important symptoms were swollen, tender glands in the neck, and fever.

This fever, described as glandular fever, has since been occasionally observed by continental writers, but not until the last two or three months has it been prominently brought before the notice of English-speaking people. Last December a careful description of an epidemic by Dr. Park West[1] appeared in America, and in this country Dr. Dawson Williams[2] has more recently called attention to the disease.

The paper by Dr. Park West is based on no less than ninety-six cases which occurred in the practice of Dr. Korell of Ohio. Dr. West thus describes some of the leading characteristics: "The most marked feature in all the cases was the enlargement of the cervical, or to be more definite, the carotid, lymphatic glands. After two to three days of *malaise* the swelling could be seen. As a rule it began on the left side and reached full development on the second to fourth day; several hours before its completion on this side it could be noticed on the right, and the same course would be followed as on the left. Occasionally the swelling began on the right side, but in no case did it appear simultaneously on both sides. . . Very rarely was it confined to but one side. The swelling always had the same peculiar characteristic appearance. To the eye it was smooth, but the finger easily detected three or four enlarged glands. It was elongated, about as thick as an index finger, and ran downward and forward from just below the angle of the jaw, between the body of this bone and the sterno-mastoid muscle. . . . The swelling was always tender, often painful, and frequently caused stiffness of the neck, and a choking sensation. In three-fourths of the cases there was noticed enlargement of other lymphatic glands, post-cervical, axillary, and inguinal." Another important point is the following: "All cases old enough to make complaints spoke of a choking or tight feeling in the throat, and when asked to locate the place would put the hands over both sides of and just above the larynx." Abdominal pain and tenderness were common, and in the greater number of cases the liver and spleen were somewhat enlarged. Constipation was very frequent, but in the milder cases there was some diarrhœa. The fever and other acute symptoms lasted from four to seven days, but the glands remained enlarged from nine to twenty-seven days. In none was there any rash.

Dr. Dawson Williams considers that he has seen several examples of this disease, but his confidence in the truth of Pfeiffer's description seems to have been confirmed mainly by two cases seen last March. One case, in a girl aged five years, was brought to the out-patient department of the Children's Hospital, Shadwell, for a stiff neck and swollen glands. Dr. Williams thus describes the case: "The child looked ill, had a temperature of 102.8° F., carried her head stiffly, and on the left side there was a swelling about the size of a hen's egg by which

[1] *Arch. Pediat.*, 1896, xiii. 889. [2] *Lancet*, 1897, i. 160.

the sterno-mastoid was bulged forwards. On palpation the swelling was found to consist of three glands lying beneath the muscle. They were tender, but the child appeared to suffer more if the head were moved than when the glands were manipulated gently. She had refused food, but had not complained of pain in swallowing." There was no tonsillitis, and the only noteworthy point about the throat was slight granular pharyngitis, which Dr. Dawson Williams says is extremely common in children in the East-end of London. Five days later her brother, aged three and a-half years, was seen. He presented a swelling in the neck in the same situation on the left side as that seen in his sister. There was no tonsillitis. The temperature was 102°, and he complained of some abdominal pain. Two days later he was again seen, and the glands on the right side of the neck were then also enlarged.

This paper by Dr. Williams called forth letters from Dr. Donkin[1] and Dr. Coutts,[2] both of whom had recently seen cases in which several members of a family had been attacked, and curiously enough in both instances not only children but an adult also suffered. I also sent two letters[3] referring to cases that had come under my notice. For three or four years I have been on the watch for this disease, but not until the last few weeks have any cases been seen, and it seems to me that an epidemic, at the time of writing, exists in Bristol. The first case seen was in a private patient, but fifteen others have been seen at the out-patient department of the Children's Hospital. Most of these have been brought for examination after the fever has passed off, and consequently one has had to rely more upon the history given by the mother than if one's daily routine had given the opportunity of seeing these patients earlier at their homes. The disease is, however, I think, sufficiently characteristic to be unmistakable even after the acute symptoms have disappeared. The febrile attack is depressing, and leaves the child anæmic and lethargic, and it is for listless weakness that the mother may bring the child. Without any questioning, however, she generally gives a history of symptoms of fever lasting four or five days associated with the presence of tender swellings in the neck. This tenderness may be a very marked feature, and one mother described how the child persistently kept the fingers of both hands between the neck and collar of the clothes in order apparently to steady the head and preserve the swollen glands from injury. In other cases the fever, with which there may have been delirium, has attracted more attention than the tender swellings. When, however, tenderness in the neck has been a marked feature, it has generally been noticed to have disappeared with the subsidence of the fever, and although for some time during the period of convalescence enlarged glands in the neck may be discovered they are not then as a rule tender

[1] *Lancet*, 1897, i. 274. [2] *Ibid.*, 346.
[3] *Ibid.*, 274, 407.

to the touch. These glands, in my experience, have been from the size of a pigeon's egg downwards, and most commonly situated beneath the anterior border of the sterno-mastoid muscle. They have been present on both sides, but have been usually larger and in greater number on one side than the other. The largest of the swollen glands has generally been just below the angle of the jaw, and below it have been two or three other glands diminishing in size from above downwards. The glands in the posterior triangles of the neck have also been frequently enlarged, but in only two cases have I found them elsewhere than in the neck, and those were in the groins. In no case have I been able to make out the enlargement of the mesenteric glands described. Next to the enlargement of the cervical lymphatic glands the most interesting feature is the difficulty of swallowing. In young children this leads to refusal of food; in older children to complaint of soreness of the throat. This difficulty of swallowing, however, is not apparently due to an actual sense of soreness. One child, two years of age, was said to have complained of having "a bone in the throat," and was further said to have "nearly choked itself" by thrusting its fingers into its throat in vain endeavours to extract the offending body, a method of procedure that does not seem to indicate great local tenderness. And children old enough to clearly express their feelings may definitely deny that there has been any pain in swallowing, and describe a sense of tightness in the throat. The most interesting observation upon this point was made by an adult, a man forty years of age, who had suffered with his eight children from fever associated with tender swellings in the neck. When describing the difficulty of swallowing he denied the existence of pain, but spoke of a sense of obstruction behind the cricoid cartilage which necessitated "a struggle to swallow." The site at which the sense of difficulty is felt is of some importance. In my experience it has been remarkable how constantly children aged four years and upwards have referred it to the level of the larynx, most commonly to the upper border of the cricoid cartilage. There has not been any lesion of the throat that would account for this abnormal sense of difficulty in swallowing. Of the other signs described, enlargement of the liver and spleen have not been definite features in the cases seen by me. In three cases the spleen was felt below the costal margin, and in a few others the liver may be said to have been enlarged, but not sufficiently to warrant the laying of any stress upon the point. While, however, splenic enlargement was not common, it is perhaps worthy of mention that in three children complaint of pain in the region of the spleen was one of the most prominent symptoms. Constipation has been a marked feature in a few cases, but the majority have been given an aperient, which has overcome any constipation that may have been present and has even produced slight diarrhœa. In

two cases in which I have had opportunities for ascertaining the length of the fever, it has lasted five days, and the history in others has generally very definitely given the same duration for the acute symptoms. In one or two, however, the fever appears to have ended in four days. Besides the glandular swellings, difficulty of swallowing, and fever, a few cases have presented other symptoms. Dr. Chapman [1] in a more recent letter to the *Lancet* draws attention to the fact that five of his own children suffered from the disease, and in four there was epistaxis. He remarks that this complication does not seem to have been noticed by writers upon glandular fever. One other complication that has not been recorded, but seems to me to occur, is the occasional presence of a passing synovitis. In two cases this occurred with a relapse of the disease, and in both the synovitis was in the ankle-joint. In two others there was a history of swelling and pain in some of the finger-joints of one hand, and in another marked synovitis was present in the right sterno-clavicular joint; but in this case there had been a recent attack of acute rheumatism, and it cannot be said that this synovitis was not due to a slight intercurrent attack of that disease.

Reference has been made to the shortness of the fever; but it must not be forgotten, as Dr. Dawson Williams remarks, that the acute stage may leave behind marked anæmia and general deterioration of health, from which the child does not completely recover for a month or two. As an example it may be mentioned that in one family upon which I called, where eight children had been attacked, it was found that in one child so much anæmia and weakness remained three weeks after the disappearance of symptoms of fever, that the mother, a sensible woman, had not considered him well enough to be allowed out of doors. Dr. Park West states that so far as is known only one case in an adult has been described. Dr. Donkin and Dr. Coutts, however, in their letters to the *Lancet*, both mentioned instances in which an adult had suffered as well as children; and I also mentioned that I had met with similar cases. In one instance two adults had noticed tender swellings in the neck at the same time that three children were attacked; and in another, a father and eight children had been attacked. Indirectly I have since heard of a similar case. The mother of one of the children seen at the Children's Hospital said that the father had first suffered. Three children were afterwards attacked.

Little can be said at present about the pathology of the disease; but Dr. Dawson Williams states that it seems probable that the infective agent, whatever it may be, obtains entrance by the pharynx or tonsils without producing a local lesion. To me it appears, however, not impossible that although the pharynx may escape, the œsophagus may be in some degree

[1] *Lancet*, 1897, i. 555.

inflamed. The situation at which the difficulty of swallowing is experienced seems to suggest this. The point at which much friction must be felt in the œsophagus is just behind the cricoid cartilage. The food in passing downwards has this hard cartilage in front and the bony vertebra behind; and, as an illustration of the way these structures may affect the soft parts, it may be mentioned that it is not very uncommon in chronic debilitating diseases to find ulceration of the œsophagus at this point due apparently to pressure of this cartilage against the spinal column behind. Any inflammation of the œsophagus leading to deficient or abnormal tenacity of its mucous secretion would occasion some difficulty of swallowing, which difficulty would most likely be felt more behind the cricoid cartilage than elsewhere. And it has been to the level of this cartilage that the patients in my experience have almost constantly pointed, when asked to locate the spot at which they have felt the obstruction of which they complain.

There are other points of interest which might be considered, but my object has been little more than to direct attention to this disease, trusting that in the experience and judgment of others I may find confirmation of the truth of these few observations, cursorily given though they are.

THEODORE FISHER.

The following is a continuation of the record of **Serumtherapy** which I gave in December:

Further efforts have been made during the past year towards an effective serum-treatment of tuberculosis. Dr. Maragliano[1] has employed an anti-tuberculous serum in the treatment of pulmonary phthisis. He states that his serum contains specific antitoxins which neutralise both in animals and men the toxins of tuberculosis. It is prepared as follows: The purpose is to inject into the animals which are to furnish the serum the toxic substances that can be obtained from very virulent cultures of human tuberculosis. The first group is obtained by concentration over a sand-bath at 212° F., then by filtration through a Chamberland filter; this contains the proteins. The second, which contains the toxalbumins and a small quantity of protein, is obtained by the Chamberland filter, the culture not being heated, and concentrated in a vacuum at 86° F. Three parts of the first and one part of the second are injected into horses in proportion to the body weight, one to 500,000, and increased each day by one-half the original dose, until twenty to twenty-five times that dose is reached. The maximum dose is injected daily for six months, when immunity is reached. The treatment is now suspended for three or four weeks. The immunised animal is now bled, and the serum prepared by the

[1] *Policlin.*, 1896, iii—M., 213; abstract in *Am. J. M. Sc.* 1896, cxii. 469.

same method as for the other therapeutic serums.[1] The serum contains a specific antitoxin. One c.c. protects 1 kilogramme of guinea-pig against a lethal dose of tubercle bacilli. *In vitro* it develops bactericidal properties on cultures of tubercle bacilli.[2] The serum (in man) has slight pyrogenic properties; its effect on the temperature is the same in apyrexial tuberculous patients as in healthy men. A rise of temperature, varying in degree with the individual, regularly occurs after large doses, and is not a specific result, but the general property of the serum. It lasts two to three days, and is not accompanied by an increase of local symptoms. The rise of temperature is not proportional to the severity of the disease.

Of local symptoms, the tuberculous broncho-pneumonic patches are favourably influenced. They dry up, the moist râles disappearing: this favourable result is only to be expected when no other micro-organisms co-exist; the more extensive the association with other organisms, the less is the focus of disease influenced by the serum-treatment. Of forty-four cases with circumscribed lesions, with or without slight fever, and without extensive association with other microbes, twenty-four were dismissed as cured, the rest essentially improved by the treatment; fourteen cases with diffuse broncho-pneumonic foci, with or without fever, and with little or no affection by other microbes, were improved, some strikingly so. In diffuse broncho-pneumonias with extensive association with other microbes, and also in cases with excavation, the effect of the treatment was less favourable.

The duration of the illness is of less importance as regards successful treatment than its extent, intensity, and character. Association of the disease with diplococci and streptococci is unfavourable. Fever is also a hindrance to successful treatment; the sthenic septic fevers, resulting from a mixed infection, are very unfavourable.

The treatment is thus carried out in apyrexial cases, and in those with moderate pyrexia: an injection of 1 c.c. is given every other day for ten days, then every day for the same time; then 2 c.c. a day for ten days, and so on. In cases with high fever a dose of 10 c.c. is injected; if the fever now falls, daily injections of 1–2 c.c. are given; if it persists after eight days, a second injection of 10 c.c. is made, then a third, and so on.

Maragliano has recently published[3] an analysis of 410 cases of tuberculosis in which his treatment has been carried out by different observers. The patients were at various stages of the disease, 93 having cavities. In 98 per cent. other methods of treatment had failed. 16.2 per cent. were cured, at any rate for

[1] Abstract in *Centralbl. f. innere Med.*, 1896, xvii. 1124.

[2] *Berl. klin. Wchnschr.*, 1895, No. 32; abstract in *Centralbl. f. innere Med.*, 1896, xvii., 516.

[3] *Cron. d. clin. Med. di Genova*, 1896, iii. 2; abstract in *Progrès méd.*, 1896, 3e Sér. iii. 283.

the time, 48 per cent. were considerably improved, 25.5 per cent. remained stationary; in 8.25 per cent. of these the disease steadily progressed in spite of the treatment. He concludes that the serum treatment is not dangerous; it often cuts short the fever; it has a favourable action on the foci of disease, on the body weight, which is augmented, and it diminishes the number of bacilli; in 43 per cent. of cases they disappeared from the sputum. All the patients who had tuberculous lesions limited to the apex of one lung were cured. The serum may be employed with good prospect of success in all forms of tuberculosis.

De Renzi[1] found from a trial of the treatment in twenty-two cases no drawback to the use of the serum. In some cases a swelling of the lymph-glands in relation to the site of injection occurred; this was almost painless, and subsided without treatment, and he regards it as indicating a favourable reaction. In some cases arrest of the disease, in others improvement, occurred. Increased appetite and sense of well-being were noted. The cure is not hastened by an increase of the dose. The best results are obtained in cases of uncomplicated or limited tuberculosis without high fever.

De Renzi[2] has also investigated the action of Koch's tuberculin on patients who had undergone the serum treatment, and found that they presented a less intense reaction than those who had not been so treated, from which he concludes that they are in a certain measure rendered immune to the action of the tuberculous poison. After thirty or forty injections of serum, the reaction to doses of tuberculin as commonly employed is either absent or very slight. There was only one exception in a patient in whom the disease was very far advanced.

V. Babes and G. Proca[3] have studied the effect of a serum produced by inoculating tuberculin and dead tubercle bacilli into animals. This mode of procedure thus differs from Maragliano's, in which the poisonous products of the bacilli only are used:—

1. Dead tubercle bacilli deprived of tuberculin are passed through bodies of animals, whose serum then contains active principles which, without giving rise to fever as in the case of tuberculin, produce pathological lesions analogous to the living bacilli.

2. Tuberculin differs from this serum: (*a*) In being more toxic, the anti-tuberculous serum not being fatal even in large doses. (*b*) The serum mixed with tuberculin *in vitro* paralyses the action of the latter, except in very large doses. (*c*) Both have in common a curative action on lesions produced by dead tubercle bacilli.

[1] *Riforma med.*, 1896, xii. pt. 1, 87; abstract in *Centralbl. f. innere Med.*, 1896, xvii. 1124.

[2] *Rev. clin. e terap.*, 1896, No. 4; abstract in *Rev. de Thérap. méd.-chir.*, 1896, lxiii. 369.

[3] *Compt. rend. Acad. d. Sc.*, 1896, cxxii. 37; abstract in *Rev. de Thérap. méd.-chir.*, 1896, lxiii. 108.

3. In animals treated by tuberculin, and afterwards with dead bacilli, the serum is more potent than in those treated by tuberculin alone; the serum of animals so treated is efficacious in curing experimental tuberculosis, if injections are begun a few days after infection and several times repeated. Large doses must be used to be effectual.

4. If the poison of tuberculosis and the serum be simultaneously inoculated, no general tuberculosis follows, and the local lesion heals after a time.

5. Tuberculin can also exceptionally cure experimental tuberculosis, if the treatment is begun soon after infection. In animals treated as in 3, almost all have been saved after infection by tuberculosis. The control animals all died of tuberculosis.

6. When this anti-tuberculous serum is in contact with tubercle bacilli *in vitro*, the latter become inoffensive for guinea-pigs; in the presence of a medium favourable to growth of tubercle bacilli the medium becomes unsuitable for their growth.

* * * *

So far serum-treatment in **tetanus** seems to have made no progress; cases injected after the appearance of the symptoms have died in the usual course, if they were at all severe. One observer, M. Bazy[1], whilst at the Bicêtre, observed in two or three cases tetanus follow on wounds incurred in the same locality. Since then he has employed the antitoxin serum as a prophylactic immediately on receipt of a wound.

E. Nocard[2] has endeavoured to put in practice in animals a preventive serum-treatment, seeing that injections of tetanus serum after the appearance of the first symptoms are ineffectual. Serum was distributed to veterinary surgeons with instructions in cases of animals threatened with tetanus to inject 10 c.c. of it as soon as possible after the infliction of a wound, operative or otherwise. A second dose was to be injected after fourteen days. 375 animals were thus treated; none of them suffered from tetanus, although during a period of some days to a month previously other animals in the same stable had been slaughtered on account of tetanus, and the injected animals had been left in close association with them. During the following six months none of the 375 animals died, whilst fifty-five cases of tetanus occurred in wounded animals under the same conditions which were not injected. No bad results were noticed from the injections.

* * * *

Gilbert and Fournier[3] remark that the serum of animals naturally immune to **syphilis** appears to have no effect upon the course of the disease, and the same is true of the serum of tertiary syphilitics. Trial was made of the serum of two patients

[1] *Progrès méd.*, 1896, 3e Sér. iii. 138.
[2] *Bull. Acad. de Méd.*, 1895, 3e Sér. xxxiv. 407.
[3] *Med. Week*, 1895, iii. 281; see also *Internat. M. Mag.*, 1896–7, v. 260.

in the tertiary stage. 304 c.c. were injected in the course of twenty days into a patient with pronounced secondary symptoms, with the result of considerable improvement in general condition, but without disappearance of the roseolar eruption. Seventeen patients were treated with serum from animals in whom attempts had been made to produce immunity by inoculation with the blood of recent syphilitics, or with excised chancres, or with both. Seven patients received the ordinary syphilitic treatment, ten did not. Of the latter, five showed no benefit and five were more or less improved; in one there was complete disappearance of all symptoms. They conclude that the serum treatment causes improvement of general condition, disappearance of headache, and of pains in the bones and joints, and attenuation or even disappearance of the cutaneous and mucous lesions, but not constantly or invariably.

Professor Neumann injected five patients suffering from syphilis with serum from two cases in the tertiary stage of the disease. Of the five patients, two were made worse and three apparently improved; but all suffered from secondary symptoms. He tried the serum of lamb's blood in one case, without any result.

Richet[1] inoculated a woman who had had syphilis twenty years before, and was suffering from tabetic symptoms, with serum from a dog that had been inoculated eight days previously with blood from a syphilitic person. After the injections the symptoms disappeared.

Rudolph,[2] from the result of two cases, believes that erysipelas may have an extraordinarily favourable influence on syphilis. The first case was that of a man aged 52, who had acquired syphilis twenty-nine years before, and who was suffering from ulceration of the nose and supra-orbital region, which healed up nine days after the onset of erysipelas. The second case was that of a dressmaker aged 25, who had contracted syphilis at 21; had undergone several courses of mercurial treatment and taken large quantities of potassium iodide. The patient was weak and emaciated, and suffered from enlarged glands, severe pains in the knees of syphilitic origin, headache, paresis of the left side of the face, with twitching of muscles. Further treatment by potassium iodide had no effect. A severe attack of erysipelas five years after syphilitic infection resulted in cure of most of the syphilitic symptoms, so that she was able to return to work. A year after, her general health was good, but there was an enlarged gland in the submaxillary region, and a gumma on the right tibia. The author quotes Strack and Horwitz as reporting a case, and Horwitz two cases, in which recovery followed the onset of erysipelas in severe cases of syphilis in which the ordinary treatment had been of little use, and also a case of Rose's.

J. MICHELL CLARKE.

[1] See *Med. Rec.*, 1896, xlix. 340. [2] *Centralbl. f. innere Med.*, 1896, xvii. 124.

SURGERY.

Among the rarer diseases that may have to be reckoned with at any time **acute pancreatitis** is beginning to take its place in abdominal surgery. It is eight years since Dr. Fitz wrote his exhaustive paper,[1] in which he gathered into a focus all the scattered knowledge on the subject, and enriched it with fresh cases from his own practice, and by the light which his careful analysis threw on the symptomatology and pathology of the affection; and it still remains the standard authority. The publication of cases since has only served in the main to justify his conclusions, although a few minor corrections or amplifications have necessarily resulted from the more accurate observation and the fuller recognition of the condition which his own work inaugurated. Dr. Fitz's paper is based on the consideration of seventy cases, all of which he has carefully tabulated. It will make the subject clearer if his general conclusions are first set down, reserving his classification of the cases, and any more recent observations, for consideration afterwards. He comes to the conclusion that acute inflammation of the pancreas is a well-characterized disease, of much greater frequency than is generally supposed; that it is important, as presenting usually a serious complication of a relatively simple affection, viz. gastro-duodenitis; as a cause of peritonitis that may easily be overlooked; and because it has been repeatedly confounded with acute intestinal obstruction. The common symptoms of this condition are "sudden, severe, often intense, epigastric pain, without obvious cause, in most cases followed by nausea, vomiting, sensitiveness, and tympanitic swelling of the epigastrium. There is prostration, often extreme, frequent collapse, low fever, and a feeble pulse. Obstinate constipation for several days is the rule, but diarrhœa sometimes occurs. If the case does not end fatally in the course of a few days, recovery is possible, or a recurrence of the symptoms in a milder form takes place, and the characteristics of a subacute peritonitis are developed." These symptoms he considers to be essentially those of a peritonitis beginning in the epigastrium, and occurring suddenly, during ordinary health, without obvious cause, and the differential diagnosis to lie between (1) an irritant poison; (2) a perforation in the digestive or biliary tract; and (3) acute intestinal obstruction. 1. The first must be excluded by the history and an examination of the vomit. 2. Perforating ulcer of the stomach or duodenum should be negatived by the absence of pain after eating, of hemorrhages from the digestive canal, and of cachexia; acute perforation of the transverse colon is rare, and the resulting peritonitis progresses more rapidly, and is likely to be general; and perforation from gall-stones is usually preceded by attacks

[1] *Med. Rec.*, 1889, xxxv. 197, 225, 253.

of colic and jaundice, while the seat of the pain is more in the region of the gall-bladder. 3. The diagnosis from acute intestinal obstruction is often most difficult. Dr. Fitz suggests that the patency and capacity of the large intestine may be determined by an injection, and reminds us of the rarity of an obstructed small intestine in the epigastric region; and the immediate presence of a localised tenderness and the usual absence of a conspicuous general tympany, or limited distension of intestinal coils, are referred to as aids in differentiation. It will be obvious from a consideration of the above how difficult the diagnosis must be in many cases, and it may well prove insurmountable in some.[1]

Dr. Fitz classifies cases of acute pancreatitis into (1) hemorrhagic; (2) suppurative; and (3) gangrenous. These varieties have more or less distinguishing features, and the mode of onset and the course of the disease present well-marked peculiarities.

1. **Hemorrhagic pancreatitis.** — All the cases occurred in adults, between the ages of 25 and 60,[2] and in nearly half the number there was a history of previous digestive troubles. The pain was either constant or paroxysmal, usually beginning in the upper abdomen, but in a fifth of the cases subsequently becoming general; vomiting might be constant, repeated, or only occasional; constipation was common; and symptoms of collapse almost invariably supervened, with death in from two to six days. The pancreas was found enlarged, either uniformly or at one end; its consistence was dense, or friable; and it was red on the surface, while internally the blood formed a patchy or uniform extravasation, in all shades of red and purple to black. The section might be further altered by bands and spots of yellowish fat, or opaque white specks, spots, or streaks of "fat-necrosis." The hemorrhage often extended beyond the gland into the parapancreatic tissue, mesentery, mesocolon, and omentum, or even to the outer border of the left kidney, or downwards behind the descending colon almost to the level of Poupart's ligament. There was usually no peritonitis. The pathological condition found was that of cellular or fibrino-cellular infiltration, especially affecting the interlobular tissue, with extensive hemorrhage; and "coagulation-necrosis" in many of the lobules.

In connection with this variety of acute pancreatitis, it may be well to refer to an analogous (though apparently distinct) condition, that of **hemorrhage into the pancreas**,[3] which comes on without known cause, and is so rapidly fatal (half-an-hour to thirty-six hours) as to be well called "apoplectiform." The patients were adults, usually over forty, who were seized with a sudden acute, or trifling, pain, with nausea and occasionally a little vomiting, and either constipation or diarrhœa, but in

[1] See a case reported in *Lancet*, 1897, i. 36.

[2] Recently a case has been published by Dr. McPhedran in an infant of nine months old. *Canad. Pract.*, 1896, xxi. 650.

[3] Fitz, *loc. cit.*

whom fatal collapse invariably supervened. The hemorrhage took place into and around the gland as in acute pancreatitis, but with no evidence of inflammation. Dr. Hawkins,[1] in reporting such a case, with microscopical sections of the gland, suggests that some cases at least of acute pancreatitis may arise from a primary simple hemorrhage, inflammation taking place secondarily around the necrosed parts. If the patient survive the first shock, and the destruction of gland-tissue be not too great, the necrosed parts, he thinks, should be capable of absorption, and he refers to a case quoted by Osler,[2] where laparotomy was performed for supposed intestinal obstruction, in which only injected and distended coils were found, without any obstruction, but presenting in the region of the pancreas, and at the root of the mesentery, a dense, thick, indurated mass, with areas of "fat-necrosis" in the mesentery and omentum. The patient recovered. He thinks pancreatitis is very likely due to an invasion by micro-organisms along the ducts. The severe and fatal collapse in these cases, and in acute pancreatitis, has been attributed by Zenker[3] and Cayley[4] to interference with the functions of the great sympathetic ganglia and consequent vaso-motor paralysis of the mesenteric vessels, together with cardiac inhibition. The latter, therefore, suggests that, in addition to the ordinary means of combating shock, suprarenal extract might do good from its reputed efficacy in controlling vaso-motor paralysis and stimulating the heart. Gentle abdominal pressure, if bearable, might be adopted also.

2. **Suppurative pancreatitis.** — The patients were adults, between 20 and 74, and in a quarter of the cases previous attacks of "indigestion" were noted. An important feature was its tendency to become chronic. The cases were accordingly subdivided into acute, subacute, and chronic. The acute cases usually began suddenly with urgent symptoms of the general type; the bowels were generally constipated, but sometimes diarrhœa occurred in the first twenty-four hours, and was not infrequent at a later stage; fever often developed about the third day, with abdominal swelling, which at first was epigastric and then general. Rarely the case ended fatally in a week. Much more commonly the symptoms persisted for three or four weeks, and then the patient died exhausted: or chills, with an atypical febrile temperature, might succeed, the liver and spleen become manifestly enlarged, and the patient die in six or seven weeks of blood-poisoning. In more subacute cases there might be an interval of several weeks of comparative comfort, only to be followed, however, by marked prostration and death: or diarrhœa might become a conspicuous symptom in the third or fourth week, then subside, and again recur with a fatal issue: or the course might be still less acute, the early symptoms being

[1] *Lancet*, 1893, ii. 358. [2] *The Principles and Practice of Medicine*, 1892, p. 459.
[3] Quoted by Fitz, *loc. cit.* [4] *Brit. M.J.*, 1896, ii. 1.

progressive weakness and emaciation, with perhaps slight jaundice and diarrhœa; there might be neither fever nor pain, or obscure symptoms of peritonitis might declare themselves; finally, anasarca and ascites led to death in about five months. Lastly, there were the chronic cases, which varied in duration from five to eleven months. Here there was the same insidious onset as noticed above; vomiting might be frequent, and distension of the stomach after meals, or epigastric pain, be complained of for some time; the stools were consistent, colourless, and very fœtid, and later might be mixed with blood; a swollen, tympanitic epigastrium was the rule. According to Dr. Fitz, it was only very rarely that a circumscribed tumour, or a circumscribed resistent spot above and to the left of the navel, was to be felt. Dr. J. W. Elliot,[1] however, reported three cases of suppurative pancreatitis in his own practice, in two of which a well-defined tumour was present; and he quotes three similar instances from Körte,[2] another of Musser's,[3] and four cases cited by Körte in his paper—a total of ten cases. From these it would appear that such tumours may be found, (1) as an epigastric swelling behind the stomach, due to pus in the omental sac; (2) running from the epigastrium to the spleen, just below the ribs, due to an enlarged pancreas or a para-pancreatic abscess; (3) as a swelling in the loin, or more rarely on the right side below the liver, from the burrowing of a retro-peritoneal pancreatic abscess. It may be difficult or impossible to feel such tumours, if the abdominal wall is very fat (and this seems often to be the case) or if the abdomen is very tympanitic and painful; they are deeply placed, and are often tympanitic on percussion from over-lying bowel. Careful palpation is the best way of discovering their presence.

The condition of the pancreas varied in these cases: it might be enlarged and studded with hundreds of small abscesses; a simple abscess might be found surrounded with adhesions; several small abscesses in an enlarged and firm gland; diffuse abscess following the course of the ducts and opening into the cavity of the omentum; or the entire pancreas might be found converted into a trabeculated cavity filled with creamy pus and cheesy masses.

3. **Gangrenous pancreatitis.**—The ages varied from 22 to 63; in half the cases the patients had been subject to repeated attacks of digestive disturbance. In four-fifths of the cases it began suddenly, without definite cause; the pain was generally severe, and might be referred to the stomach, left hypochondrium, navel, mid-abdomen, or left loin and back; vomiting was very common; the condition of the bowels varied, in some cases constipation being pronounced, while in others frequent bilious stools occurred; fever of a low type often developed after a few days, but might be absent throughout; swelling of

[1] *Boston M. & S. J.*, 1895, cxxxii. 352.
[2] *Arch. f. klin. Chir.*, 1894, xlviii. 721. [3] *Am. J. M. Sc.*, 1886, xci. 449.

the epigastrium, or left half of the abdomen, occurred in half the cases, usually late in the course of the disease, producing a fluctuating tumour which was generally tympanitic, and was either slightly marked or of enormous size; suggestions of peritonitis were frequent, and collapse was very likely to supervene; and death took place in from four days to eight weeks.

The pancreatic changes varied according to the acuteness of the case apparently, or from other circumstances: the gland might be enlarged, dark and mottled, and shreddy in parts; or form a slaty, stinking slough in its entirety; it sometimes lay bathed in dirty green fluid, or in a cavity filled with ichorous greasy pus and detritus, the gland being firm, or flabby and friable, and barely, if at all, attached to its containing cavity.

The **causation** of acute pancreatitis is obscure. Fitz believes that it usually originates by the extension of a gastro-duodenal inflammation along the ducts; but that it may also be induced by the occurrence of hemorrhage into the gland. In either case the inflammation is probably microbic.

The **prognosis** is exceedingly grave, and almost hopeless in the majority of cases. The apoplectiform hemorrhage seems to be invariably fatal, and the same may almost be said for the hemorrhagic variety of acute pancreatitis: Osler's case of recovery must, however, be remembered, the more so as it is difficult to attribute the happy result to the effect of the laparotomy. In the suppurative and gangrenous varieties the chances of recovery are a little better, and it is here that surgical interference seems most hopeful of some good result. Fitz could record no case of recovery from suppurative pancreatitis in his table, but two cases have since been published where operation was successful—one of Körte's[1] cases and one recorded by Thayer.[2]

Suppurative pancreatitis may result in evacuation of the abscess into the stomach or intestines, directly, or indirectly through the omental sac; but recovery by such a termination must be very rare. Two cases of spontaneous evacuation of a necrosed pancreas have been reported, with complete recovery.[3]

Treatment.—All authorities seem to agree that the acute stage is unfavourable for operation, when, that is, the patient is in a state of collapse. After reaction has set in (if it does), in some cases the surgeon may be able to interfere with advantage. Elliot[4] thinks it conceivable that diseased portions of the pancreas might be excised successfully, and it seems not unreasonable to hope that a sloughing gland might be occasionally removed with a good result. Elliot bases his hopes in surgical interference on the following facts: (1) The presence of scars in the pancreas at necropsies, showing that a limited pancreatitis may recover; and one of the cases of evacuation of a sloughed gland *per rectum*, referred to above. (2) Experiments on dogs,

[1] *Loc. cit.* [2] *Am. J. M. Sc.*, 1895, cx. 396. [3] Fitz, *loc. cit.* [4] *Loc. cit.*

which show that part of the pancreas may be removed without impairment of health. In man the successful removal of the tail of the pancreas has been reported by Kleberg.[1] (3) Körte's successful operation for suppurative pancreatitis. He directs that, if pus has collected in the omental bursa, the incision should be made in the middle line from the xiphoid cartilage downwards, and the bursa opened by tearing through the omentum between the stomach and transverse colon. The omentum can be stitched to the abdominal wall before opening, thus shutting off the peritoneal cavity. If the abscess-cavity extends along the pancreas, a counter-opening should be made in the lumbar region just below the twelfth rib. When the pus is evidently retro-peritoneal, and burrowing in the lumbar region or in the mesocolon, the opening should be made in the back, as for extirpation of the kidney, and then with a blunt dissector the pus-cavity should be searched for without opening the peritoneum.

The condition of "fat-necrosis" in the peritoneum around and in the neighbourhood of the pancreas has been noted in a large majority of all the cases. Its pathology and significance are obscure, and it has been observed where the pancreas was perfectly healthy; yet its association with these cases can scarcely be entirely fortuitous, and in any case its presence may be practically important. It occurs in the form of opaque white spots or masses, from the size of a pin's head to that of half a split-pea, or in rarer instances much larger (as large as a hen's egg[2]) which are either flat, or raised above the surface. In the latter case they may strongly suggest miliary tubercles, or malignant nodules, according to their size. Such a mistake might lead to the abandonment of an otherwise hopeful operation, and cause a grave error. On the other hand, if duly recognised, their presence would be a suggestive clue in an obscure exploratory laparotomy.

W. M. Barclay.

OPHTHALMOLOGY.

Embolism of the central artery of the retina, probably in a majority of the cases, affects the main trunk of the vessel and is accompanied by complete loss of sight. A large number of cases, however, are on record where only one or more branches of the main artery are plugged. The sudden onset of the lesion may cause complete loss of sight for a time, but the only part of the retina which is permanently disabled is that which depends on the occluded branches for its blood-supply.

A paper of Wagenmann of Jena[3] describes the pathological examination of an eyeball, which was removed at the death of the patient a year after complete monocular amaurosis had

[1] *Arch. f. klin. Chir.*, 1868, ix. 525. [2] Fitz, *loc. cit.*
[3] *Arch. f. Ophth.*, 1894, xl. 221; abstract in *Ophth. Rev.*, 1894, xiii. 359.

occurred from embolism of the main central artery. The embolus lay just behind the lamina cribrosa; the central artery was much distended where the plug was situated, but above and below it the lumen of the artery was narrowed. The plug was partially organised, partially degenerating. Circulation might possibly have become re-established by shrinking of the plug or by a paralytic expansion of the vessel. Ascending atrophy of the optic nerve was almost complete; the optic disc was atrophic; the inner layers of the retina were quite atrophic and reduced, but the outer layers (external nuclear and rods and cones) were well preserved.

The main central artery usually bifurcates into a superior and an inferior division, each of which splits into a temporal and a nasal branch. The macula has, however, frequently a special branch coming from the main vessel before its bifurcation, or else coming from the superior temporal artery, or less often from the inferior temporal; while not infrequently there are said to be one or more cilio-retinal vessels which appear at the margin of the disc, and are believed to arise directly from the posterior ciliary vessels and to be free of the arteria centralis retinæ.

Ward Holden[1] gives notes of five cases where embolism of a branch of the retinal artery caused partial damage to the field of vision. (1) A man aged 30. Superior hemianopsia: $V = \frac{6}{6}$. Contraction of inferior branch of central artery. Pallor of lower two-thirds of disc. Cardiac valvular disease. (2) A man aged 23. Superior hemianopsia: $V = \frac{6}{6}$. Contraction of inferior branch of central artery. Middle third of disc pale, lower third grey and atrophied, upper third normal. No heart-murmur, but a history of albuminuria. (3) A woman aged 34. Superior hemianopsia: $V = \frac{6}{6}$, the blind area encroaching on the nasal field at the periphery. Contraction and partial obliteration of the inferior retinal arteries, which probably supplied part of the temporal side of the upper half of the retina. Middle third of disc atrophied, lower third partially vascular from cilio-retinal vessels, upper third normal. Valvular heart disease. (4) A woman aged 33. Scotoma of lower and inner quadrant, implicating the fixation point: $V = \frac{4}{200}$. Embolism in a horizontal branch of superior temporal artery. Later, the temporal side of the disc became atrophic. No cardiac lesion; no albuminuria; but a clear history of syphilis. (5) A man aged 51. General blindness, excepting in a small field corresponding to a small oval area between disc and macula. Retina œdematous; retinal arteries empty or much narrowed, excepting at parts of the periphery and in a limited patch between the disc and the macula, where there is a small artery whose circulation appears to be uninterrupted. The latter case of embolism of the main central artery of the retina, excepting

[1] *Arch. Ophth.*, 1893, xxii.

of a small macular artery, is of special interest. Such a macular artery not infrequently rises from a point of the main vessel before its bifurcation.

Professor Laqueur,[1] of Strasburg, has reported a similar case of embolism of the central artery of the retina, with integrity of the temporal retinal district, and has collected notes of sixteen other cases where the diagnosis was certain as to a similar condition. In Laqueur's case central vision was retained for form and colour. The field was much narrowed from the centre towards the periphery. The retina was œdematous, excepting in a strip running towards the temporal side and including the yellow spot. This strip of normal retina was supplied by an arterial branch on the temporal side, which had a special origin from the arteria centralis retinæ prior to where the embolus had lodged at the usual bifurcation of the vessel.

In each of the sixteen cases quoted by Laqueur there was sudden loss of vision in one eye; later, a partial recovery in the central portion of the visual field, while the periphery continued blind. The normal area of retina lay between the disc and the macula lutea, and usually spread towards the temporal side, sometimes reaching nearly to the periphery, sometimes only just including the yellow spot. The variation in the shape of the unaffected area seemed in all to depend upon the way in which the macular arteries were distributed, and their escape from implication in the general stagnation of the retinal circulation was due to their mode of origin from the main vessels.

A horizontal artery is sometimes seen running close above or below the region of the macula, and sending twigs to supply it from the superior or inferior temporal branches; sometimes a special twig towards the macula runs from the main artery itself, and this may arise after the bifurcation of the vessel, or more centrally than this. This may come from the central artery, or it may pass as a separate vessel through the temporal side of the disc. In the last case, the artery is sometimes looked upon as a cilio-retinal twig coming separately from a posterior ciliary branch; the existence of such a source of supply to the yellow spot region has been used as an explanation for the escape of impairment of function in the central portion when the remainder of the retina is blinded by a plugged central artery. Thus Dr. Wadsworth publishes two cases of retention of central vision with embolism of the retinal artery.[2] The hypothesis, however, that cilio-retinal vessels are concerned with nutrition of the macular portion of the fundus is now opposed by the best authorities, and the cases quoted by Laqueur are all admitted to have depended on supply to the macula from an unobstructed branch of the central artery itself.

[1] *Arch. Ophth.*, 1896, xxv. 525.
[2] *Tr. Am. Ophth. Soc.*, 1896, vii. 585.

The ready way of mapping the area of affected retina, and the examination of the supply and condition of the retinal vessels, may be used as illustrative of the results of embolism of small vessels in the cerebral circulation—where, as in the case of the retina, there is no repair nor recovery by means of a collateral circulation.

* * * *

Dr. Charles Oliver,[1] of Philadelphia, gives the results of a series of experiments, extending over a long period of time, upon the **action of scopolamine on the iris and ciliary muscle.** The hydrobromate salt appears to be less irritating than that of the hydrochlorate, and at the same time the solution, if prepared with boracic acid, remains for some weeks free of fungoid degeneration. Instillation was made upon the superior limbus of the cornea, the lower lid being everted and the lower canaliculus compressed so as to prevent drainage of the drops into the lachrymal passage. No definite intoxicant effects were observed after repeated droppings, though there occasionally appeared to be giddiness or somnolence. Some stinging or feeling of astringency was noticed in the conjunctiva.

As a mydriatic and cycloplegic for examining the refraction, hydrobromate of scopolamine is most valuable. A single instillation of a drop of the strength gr. j. ad ʒj. gives good dilatation of the pupil in eighteen minutes, the pupil remains fully dilated for from twenty-four to thirty hours, and regains its normal diameter in about seventy hours. One drop of the same strength causes ciliary paralysis in twenty-three minutes, which is maintained for twenty-four to thirty-six hours; the power of accommodation is recovered in four days. One or two instillations of $\frac{1}{480}$ of a grain of scopolamine hydrobromate is an efficient means of estimating the entire ametropia of an eye, and the inconvenience practically lasts for only a couple of days.

Dr. Oliver writes another paper[2] on the **value of the drug in plastic iritis.** A double instillation of $\frac{1}{1000}$ solution was generally used. Its action seems more rapid and active than that of sulphate of atropia four times the strength in cases where the synechiæ are not already well organised. Scopolamine should be preferred in early and incipient cases, but when a prolonged use of a mydriatic is necessary, atropine has advantages, and the two drugs may with benefit be employed alternately: when exacerbations occur, scopolamine appears to be particularly useful in combating the more recent adhesions. Dr. Arthur Hobbs[3] says that a $\frac{1}{2000}$ solution of scopolamine, used four times at intervals of fifteen minutes, will produce a paralysis of the ciliary muscle equal to that following a three days' treat-

[1] *Am. J. M. Sc.*, 1896, cxii. 294. [2] *Ibid.*, 542.
[3] *J. Pract. M.*, 1896, No. 10, p. 428.

ment by sulphate of atropia. Its full effect is much more rapidly reached and the continuance of its action much shorter than is produced by atropine. Hobbs states that scopolamine produces no increase of tension: a statement that greater experience will probably modify.

Many experimenters have arrived at similar conclusions to those of Dr. Oliver. My own experience of the drug verifies its value as a mydriatic and cycloplegic; but in some cases in which I have tried it, it caused dryness of throat, together with definite symptoms of giddiness or even slight mental aberration. The drug, however, seems a perfectly safe one, and I have never experienced serious symptoms such as frequently attended the use of duboisine.

* * * *

Dr. Oliver Belt[1] gives notes of a serious case of **purulent ophthalmia,** with implication of both corneæ, one of which was said to have perforated, that made a good recovery under **treatment by formalin**, after nitrate of silver and antiseptic treatment had failed. A solution of one part of formalin in 1500 was used for washing the eyes every hour, and the sloughing cornea was daily touched with 1 in 60 formalin solution. After a few days marked improvement was observed, and in a month the case was practically cured. Dr. Belt says: "From the constant progress of the disease until formalin was used, and its rapid subsidence immediately following, I am quite convinced that the eyes would have been lost but for its use." The drug may be specially valuable in arresting corneal ulceration and in lessening corneal opacity.

* * * *

Dr. Gaetano Vinci[2] gives results of experiments on **eucaine hydrochlorate.** He found a two to five per cent. solution instilled on the eye-surface cause complete local anæsthesia in a few minutes, without dilatation of the pupil and with slight hyperæmia of the conjunctiva instead of the ischæmia caused by cocaine. This vaso-dilator influence may be of advantage in certain cases. The drug, though an excitant, is said to be less poisonous than cocaine, and it is cheaper than the latter drug. Eucaine will probably, however, never displace cocaine in ophthalmic practice; it causes considerable primary irritation, and damages the corneal epithelium. The drug appears to be a slight mydriatic.

F. R. Cross.

[1] *Med. News*, 1896, lxix. 265.

[2] *Arch. f. path. Anat.* [*etc.*], 1896, cxlv. 78; see *Am. J. M. Sc.*, 1896, cxii. 465.

Reviews of Books.

Geschichte der Volksseuchen nach und mit den Berichten der Zeitgenossen, mit Berücksichtigung der Thierseuchen. Von Dr. B. M. Lersch. Pp. 455. Berlin: S. Karger. London: Williams and Norgate. 1896.

This is a useful work of reference, giving in a brief and succinct form the annals of the various pestilences which have been recorded from the earliest times. Some of these diseases, as the author says, have disappeared and some have become more active at the present day; but both for the historian and the physician it is desirable to have at hand concise descriptions of the prevalence of epidemics in their chronological order. In the short space of 450 pages are crowded a vast mass of facts, gathered both from contemporary and modern writers. Thus the recent works of Jessopp and Gasquet are laid under contribution for the outlines of the Black Death in England and elsewhere, which the author identifies with the Oriental bubonic plague, and to which he devotes some forty pages. Numerous references to the authorities and literature of the subjects are given, and on the whole the work impresses us highly. The printing is excellent; but the index is poor.

Syphilis in the Middle Ages and in Modern Times. By Dr. F. Buret. Translated by A. H. Ohmann-Dumesnil, M.D. Pp. xxvi., 289. Philadelphia: The F. A. Davis Company. 1895.

In September, 1892, we noticed Dr. Buret's *Syphilis in Ancient Times*. The book now before us is a continuation of that and completes the work, which, under the title of *Syphilis To-Day and Among the Ancients*, forms an exhaustive work which will prove of value to the syphilographer and medical historian; although there are many quotations from ancient documents which, we venture to think, most Englishmen would refrain from introducing into any publication, and which must render the work distasteful to many, however keen their pursuit after the proof of the early existence of syphilis.

The author shows conclusively that the plague of Naples in 1493 and 1494 was not an epidemic which burst suddenly upon the people of that city, but that it had been smouldering for several years before Charles VIII. marched into Italy and besieged Naples; that the French army, therefore, was not

instrumental in introducing the disease directly, but that, by the overcrowding consequent upon the arrival of the troops, accompanied with hygiene of the worst character, a great and sudden increase in the epidemic was brought about. M. Buret has spent much time and exhibited no little patience in disproving the theory of "the American origin of syphilis," first promulgated by Schmaus in 1518 and perpetuated by the writings of Ulrich von Hutten. He does not deny the existence of the disease in America before the arrival of Columbus on its shores, but he proves up to the hilt that it was well-known in Italy years before.

The book closes with a few pages devoted to the prophylaxis of syphilis. A powerful protest is lodged against any coercive measures for its suppression.

Kirkes' Hand-Book of Physiology. By W. D. HALLIBURTON, M.D., F.R.S. Fourteenth Edition. Pp. xvii., 851. London: John Murray. 1896.

Kirkes' well-known Hand-book has, in its fourteenth edition, been to a great extent rewritten by Professor Halliburton: it retains its original form, and has many of the old familiar illustrations; but a large number of the six hundred drawings are new and are a useful addition to the volume, which, excepting in some minor details, is essentially a new one. For many years the older editions have supplied the wants of the medical student, giving him a combination of histology with physiology proper; this arrangement has been preserved, and we think rightly so: other text-books on physiology give a greater amount of detail, but here we have just the combination which the average student requires. Professor Halliburton's name is a guarantee that the work is done by one who knows, and he has avoided the common mistake of giving too much space and attention to any one branch of the subject. His account of the structure, properties, and mode of coagulation of the blood leaves little to be desired; but we should like to see somewhat more notice taken of the clinical methods of obtaining the specific gravity of blood, inasmuch as we have found that Roy's method, modified by Lloyd Jones, is a more trustworthy guide as to the quality of the blood from the clinical standpoint than is the Hæmoglobinometer, which gives such varying and untrustworthy results in the hands of those who are not very sensitive to delicate shades of colour.

The chemistry of the action of the gastric juice is briefly described, and the various intermediate varieties of proteoses are indicated: some text-books leave the student in absolute chaos over the different modifications of proteids, but no one need be in any dilemma after perusing this book.

We are glad that the author has utilised the latest methods for an analysis of the distribution of nerve fibres, inasmuch as no book on histology should ignore the method of Golgi; the author's analysis of the structure and working of nerve tissues is very clear and concise.

We congratulate him on having kept the volume within reasonable limits of size without the sacrifice of any important details.

A Text-Book of Histology, Descriptive and Practical. By Arthur Clarkson, M.B. Pp. xx., 554. Bristol: John Wright & Co. 1896.

The aim of the author is to furnish in this book a concise but sufficient description of the minute structure of the organs and tissues of the body, together with an explanation of the methods of preparing the specimens, including the processes of hardening, staining, cutting and mounting, &c. It is illustrated by 174 beautifully drawn and lithographed coloured plates copied from typical sections, most of them remarkably accurate, others intentionally made diagrammatic. But when any departure from the actual specimen is made it is always plainly indicated; and the student can enjoy the great and unusual advantage of learning histology from pictures which are really correct representations of the various structures. Such a combination of theoretical and practical histology cannot, of course, be complete in one moderately-sized volume, but enough is given for all ordinary purposes.

The methods given are the most approved, and the details are described carefully and clearly; great pains have also been taken to enable the reader to understand exactly what he is expected to see in the drawings. It is in these last that the especial interest and excellence of the work lies. There is hardly a plate which is not of great artistic and scientific merit. We only regret that there are not a few more drawings to make the book more complete. We would suggest, for example, that some representations of specimens of nerve-tissue stained by Golgi's method, some plates of the various nerve-endings, and some of the modern methods of staining the white corpuscles of the blood, &c., might be included in another edition.

Here and there we think the descriptive portions might be made a little clearer for the beginner; but whatever fault is to be found with this is more than counterbalanced by the clearly-drawn and well-coloured plates, which speak very plainly for themselves. The semi-diagrammatic representations of liver, lung, lymph-channels, kidney, &c., are very helpful, and add to the value of the book for teaching purposes.

The Composition of Expired Air and its Effects upon Animal Life. By J. S. BILLINGS, M.D., S. WEIR MITCHELL, M.D., and D. H. BERGEY, M.D. Pp. 81. Washington: The Smithsonian Institution. 1895.

For many years investigators have been trying to discover the causes of the bad effects of defective ventilation; and whilst some have attributed them to excess of carbon dioxide or deficiency of oxygen, or to both of these factors, there have been others, *e.g.* d'Arsonval and Brown-Séquard, who suppose that even healthy animals exhale a volatile organic poison of the nature of an alkaloid or ptomaine.

Drs. Billings, Weir Mitchell, and Bergey have, in an extensive series of experiments, failed to find any trace of a volatile poison in expired breath. They do find a very small amount of ammonia and combined nitrogen in human breath, and show that this is due to decomposition of organic matter in the mouth and pharynx, but of any peculiar volatile organic poison they find no evidence whatever. They remark that the high mortality of persons living in crowded dwellings is now known to be due in large part to specific diseases, such as phthisis and pneumonia, and that the good effects of increased ventilation are to be attributed in large part to the lessened quantity of dust particles to which micro-organisms adhere. The offensive smell of public halls and places of entertainment is, in their opinion, due to volatile products of decayed teeth and foul mouths, to fatty acids given off in the excretions of the skin, and to the means used for illumination.

This work is issued in large quarto, in the attractive form which characterises all the "Smithsonian Contributions to Knowledge."

A System of Medicine. By Many Writers. Edited by THOMAS CLIFFORD ALLBUTT, M.D., F.R.S. Volume I. Pp. xxxix., 977. London: Macmillan and Co., Ltd. 1896.

It is more than usually fitting that a general summary of medicine of this kind should appear under the editorship of one who has spent so many years in the active acquisition of a very wide experience, and who now has a comparative degree of leisure for other work with more than an average degree of ability to present the results of his experience in an eminently attractive form. The introduction to the volume is written by the editor, and is a masterpiece of philosophical analysis, which must be read entire, and should not be mutilated by any quotation or insulted by criticism. It forms an excellent prelude to the articles in Division I., which are called Prolegomena, and are a special characteristic of this book as

distinguished from the ordinary existing manuals on medicine. This division comprises twenty chapters, extending to nearly five hundred pages, on a variety of most useful topics, written by specialists mostly of world-wide reputation. We are tempted to give a list of these chapters and the names of the authors, but it is difficult to mention one without going through the list in rotation.

The chapter on anthropology and medicine opens up questions on which few physicians are qualified to write; none so well qualified as Dr. John Beddoe, whose work as Physician to the Bristol Royal Infirmary enabled him to combine the physician with the erudite anthropologist. His experience of disease in relation to colour must be very large, and it is interesting to note that "on the whole, however, the deposition of pigment in the skin and hair of mammals would seem to be the result of processes which connote or accompany health and vigour rather than the opposite." The fallacy of statistics is well illustrated by his analysis of the distribution of phthisis in France; we naturally infer that the greater density of population is the one and sufficient reason for the greater amount of phthisis in the recruits from Flanders, Picardy and Normandy. His explanation is as follows: "The fact is the tall, long-headed blond population is where it is by reason of its physical and moral qualities; its striving, ambitious, masterful character, which enabled it to occupy the best and most fertile parts of France, leaving the hills and heaths to the dark, short-headed Kelts." In the British Isles, personal observation enables him to assert that phthisis is not especially prevalent among blonds. The typical victim of phthisis is a tall person with blue eyes, a transparent complexion, and dark hair. As regards the best seed-bed for cancer, he finds that "the prevailing complexion, among the subjects of cancer in this country, is dark." But he adds: "Of course it does not necessarily follow that cancer is at all more prevalent among generally swarthy than among generally blond nations; nor am I aware of any evidence in favour of such a belief. On the contrary, there is some reason for supposing it to be a disease whose development is favoured by civilisation, comfort and intellectual progress; and these are on the whole most prevalent in the races whom Huxley calls Xanthochroi, although it is the swarthy individuals among them who suffer most." This point is of some interest in connection with the well-known prevalence of pigmented moles in elderly patients who are the victims of internal cancerous disease.

Dr. W. H. R. Rivers supplies a short chapter on temperament. After an outline of the four-fold division, on which there has been a long-maintained and singular unanimity among both medical and philosophical writers, another possible basis on psychological outlines is suggested. "As a working hypothesis at the present time, the customary tripartite division of mind

might be accepted, and an endeavour be made to find the physical and mental traits which characterise the three types of Auguste Comte—the man of thought, the man of feeling, and the man of action."

The laws of inheritance in disease, and the medical geography of Great Britain, are followed by a chapter of eighty-four pages, by Professor John George Adami, on inflammation, in which an attempt is made to bring into order the very numerous recent researches upon the inflammatory process and to show whither they appear to tend. He concludes a very complete outline of the subject by defining inflammation "as the series of changes constituting the local manifestation of the attempt at repair of actual or referred injury to a part, or, briefly, as the local attempt at repair of actual or referred injury."

The chapter on climate in the treatment of disease is written by Dr. Hermann Weber and Dr. Michael G. Foster, and it is gratifying to note that "the qualities of energy, perseverance, and hope cannot be over-estimated in the treatment of chronic disease by climate." With these factors acting in co-operation with the world-wide variations of barometric and thermometric changes, we have an armamentarium which may well take its place side by side with, and acting in harmony with (not instead of), those agents which Dr. D. J. Leech summarises in his chapter on the principles of drug therapeutics. Of both kinds of treatment it may be said that they can "only act beneficially when they can exercise such influence on the morbid changes in tissues and organs as to restore the parts to a state compatible with systemic life. But in a large proportion of cases such restoration is impossible," and the quest for a suitable climate is as useless as that for a suitable drug.

The chapters on artificial aerotherapeutics, on balneology and hydrotherapeutics, the medical applications of electricity, massage, nursing, the hygiene of youth, and the general principles of dietetics in disease are of a much more complete and useful character than has generally been the case in essays on those subjects.

The subject of life insurance is now a very important part of medical work, and we have from Dr. E. Symes Thompson a very practical outline of what the examiner should do. We are delighted to see that he protests against the endless series of trivial questions and the over-examination to which would-be insurers are often called upon to submit.

After this excellent series of preliminary essays we come to Division II., which comprises two parts: one is on insolation, by Sir Joseph Fayrer, and the other deals with some of the various infections. Dr. Kanthack writes on the general pathology of infection; Dr. Julius Dreschfeld on enteric fever and on infective endocarditis; and Mr. Watson Cheyne on erysipelas

and on septicæmia and pyæmia. The other writers, for the most part English and metropolitan, are well known in their special departments; they represent the best of English workers, but the work they represent is cosmopolitan. The influence of bacteria is paramount throughout this part of the volume: even in the comparatively simple and harmless furuncle Dr. Melsome points out that "whatever part constitutional states may play, it is certain that the occurrence of a furuncle is impossible without the intervention of *pus micro-organisms*. Staphylococcus pyogenes aureus or albus, or both together, are invariably present," and hence local antiseptic treatment is the one thing needful. "The various drugs alleged to have special healing properties in these affections are, so far as we know at the present time, quite useless." Dr. Dreschfeld's excellent article on enteric fever is based upon the demonstration that the specific cause of the disease is Eberth's bacillus, but he has to admit that antitoxin treatment finds as yet no place in its treatment, whereas in diphtheria and tetanus the antitoxin principle has been most successfully applied. The chapter on serum therapeutics shows us what can and what cannot be accomplished by this means.

The book is a mine of wealth, and a most welcome feature of it is the copious bibliography appended to the sections.

Rheumatism: its Nature, its Pathology, and its Successful Treatment. By T. J. MACLAGAN, M.D. Second Edition. Pp. xiii., 324. London: Adam and Charles Black. 1896.

What more authoritative can there be than the views of Dr. Maclagan on rheumatism? When one thinks of what rheumatism was in the old days and what it is now, one can but wonder how it was that so many years were required to abolish rheumatic fever as we used to know it. The discussions on salicylates are now over: all the world accepts the fact that the salicyl compounds act like a charm, and are so trustworthy that there is no longer anything to discuss except the theoretical views as to their mode of action.

In this volume the miasmatic theory is expounded, and an explanation is offered of the manner in which the salicyl compounds produce the marked anti-rheumatic effects which they are now acknowledged to possess. The miasmatic theory —which regards the rheumatic poison as a parasitic organism, requiring for its development and action a second factor or nidus which is localised in fibrous and serous tissues, which exists in varying amount in different parts of those tissues, and which, like the nidus of ordinary malarial fevers, may be exhausted and renewed again—satisfactorily explains the leading phenomena of the disease, and the therapeutic test gives the most powerful confirmatory evidence in favour of this view.

Rheumatoid Arthritis: its Pathology, Morbid Anatomy, and Treatment. By GILBERT A. BANNATYNE, M.D. Pp. xii., 173. Bristol: John Wright & Co. 1896.

The discovery by Drs. Bannatyne and Wohlmann of a micro-organism of constant characteristics in the synovial fluid of cases of rheumatoid arthritis has thrown much light on the hitherto obscure etiology of this disease.

Dr. Bannatyne has rapidly followed this up by writing a fairly complete description on the subject from the new standpoint. The most important practical result brought forward in the book is, that treatment by internal antiseptics, such as guaiacol carbonate and benzosol, has led to most encouraging results. The chief point in which perhaps fault might be found is that there is evidence of some hastiness in bringing out such a treatise: for instance, the pathology of the muscular atrophy which so often occurs is discussed twice over, the second time, in the course of a long extract from an article contributed by the author to the *Lancet*.

The Pathology of the Contracted Granular Kidney. By Sir GEORGE JOHNSON, M.D., F.R.S. Pp. viii., 62. London: J. & A. Churchill. 1896.

This little volume gives an excellent outline of the two most characteristic points in the teaching of the master who has recently been removed from us. The stop-cock action of the muscular-walled arterioles was much emphasised by Johnson more than thirty years ago, and is now accepted as a factor in the production of hypertrophy of the left ventricle of the heart, as well as in explanation of the phenomena of Raynaud's disease: the muscular action of the pulmonary arterioles in cases of apnœa and in the collapse stage of cholera were favourite topics with Johnson for many years.

The connection between the arterial changes, the cardiac hypertrophy, and the granular kidney is now universally admitted; and that the wasting of the granular kidney is the result of pathological changes which are primarily and essentially *intra-tubular* was always stoutly maintained by the author, who insisted upon the view that the pathological process is neither primarily interstitial nor of the nature of inflammation.

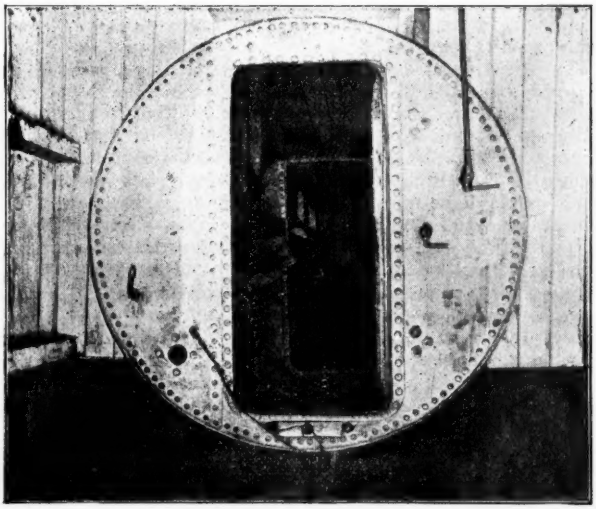
Few investigators have been left so completely masters of the field as was Sir George Johnson in his spirited controversies on the nature of the various pathological conditions of the kidney.

Compressed Air Illness, or so-called Caisson Disease. By E. Hugh Snell, M.D., B.Sc. Pp. viii., 251. London: H. K. Lewis. 1896.

The London County Council made a wise selection in appointing Dr. Snell to take charge of the men employed in the compressed air work carried on at the Blackwall Tunnel. What that work was is well described and illustrated in a paper by Mr. J. M. Bulloch in the January number of the *English Illustrated Magazine*, in which diagrams show the general arrangement of "the most wonderful tunnel in the world"; it is twenty-seven feet in diameter, and has been carried through gravel ground so dangerous that the most experienced engineers deprecated the idea of its possibility. The story of the making of this tunnel is quite a scientific romance, but our duty is not so much with the engineers who accomplished it as with the medical superintendent of the work and the medical lessons to be learnt therefrom.

The principle of compressed air is exceedingly simple—it is employed to keep out water; so what the engineers had to do was to inflate the tunnel, as you would blow up a bladder, by corking up one end with a huge brick wall twelve feet thick and pumping in additional atmospheres. At the sea-level the pressure of the atmosphere is well known to be about fifteen pounds per square inch; but into this air-tight chamber the engineers pumped sometimes as much as an additional thirty-five pounds to the square inch, so that the workers were supporting about half a hundredweight of air-pressure on every inch of their bodies. Dr. Snell has well utilised the almost unique opportunity of observing the nature of the strange illnesses to which men are liable when working under such abnormal conditions, and this volume gives us by far the most advanced monograph which has yet appeared on the subject. After an outline of the history of working in compressed air, the author gives a series of fifty cases, selected from a list of over two hundred similar ones of very varying degrees of severity which have occurred under his observation at the Blackwall Tunnel, and he then gives an excellent summary of the symptoms caused by compressed air. It has been commonly assumed that some form of paraplegia is the most likely result of abnormally high air pressures. Dr. Walter Moxon's Croonian Lectures on the cerebral circulation (*Lancet*, 1881) gave a very good anatomical reason why the spinal cord should suffer from anæmia in consequence of the length and smallness of the arteries in the long oblique nerve-roots at the lower segments of the cord; but the cases of paralysis met with at the Blackwall Tunnel have been very few and trivial compared with those which have been recorded at such works as the St. Louis and the Brooklyn Bridges. By far the most common symptom is

pain in the extremities known by the men as "bends.' The pain usually affects the legs, and principally the parts about the knees; the pain may be so severe that it interferes with the use of the limbs to an extent that may simulate paralysis. The theory that the symptoms are due to the giving off of the excess of dissolved gases after removal of the abnormal pressures is the only one considered by the author to be tenable, and this is the foundation of his treatment; for he states that "there is one treatment that should immediately be resorted to —namely, recompression. In order that this may readily be done, without the necessity of conveying the patient down lifts or ladders to the ordinary air locks, a medical air lock should be constructed in a convenient situation. This may be easily done by having an ordinary boiler fixed horizontally [such as that represented on p. 223 of this volume[1]], and a door fitted at



one end. If this be divided by a diaphragm provided with a door, the outer chamber serves as a lock whereby the inner can be entered or left without lowering the pressure. When this is provided with bunks, electric light, and the requisite air cocks and connections, we are in possession of a very appropriate medical lock. The patient should be placed in this and the pressure rapidly raised until the pain or other symptom is alleviated. . . . The exit should be effected slowly—in fact,

[1] We are indebted to the kindness of Mr. H. K. Lewis for the loan of the block.

the patient should be allowed to 'leak out' in about forty-five minutes."

Dr. W. Gilman Thompson (*Med. Rec.*, 1894, xlv. 133) quite adopts this same view, that in all instances of caisson disease the main danger lies in the too rapid change of pressure, especially its diminution; and he adds that "one cannot condemn too strongly the practice of allowing the workmen to leave the caisson very rapidly."

If such a chamber as that described should come into daily clinical use for the treatment of emphysema and other conditions where compressed air is found to be useful, then these injunctions to avoid a too rapid change or too long continued a pressure will become increasingly needful.

Surgical Emergencies, together with the Emergencies attendant on Parturition and the Treatment of Poisoning. By PAUL SWAIN. Fifth Edition. Pp. xviii., 254. London: J. & A. Churchill. 1896.

This new edition has been thoroughly brought up to date and well maintains the reputation of its predecessors. It would be better to devote more space to the use of the syphon method of emptying the stomach rather than to the use of the stomach pump (pp. 191—194), as the former is by far the more generally useful and the less risky. The book is essentially practical and thoroughly trustworthy.

The Objects and Limits of Operations for Cancer. By W. WATSON CHEYNE, M.B., F.R.S. Pp. vi., 140. London: Baillière, Tindall, and Cox. 1896.

This book, which consists of the Lettsomian Lectures for 1896, reprinted from the *Transactions of the Medical Society of London*, is one which should be carefully studied by every surgeon—and, indeed, by every medical practitioner. The regions affected with cancerous growths, referred to by Mr. Watson Cheyne, are the breast, the throat and tongue, and the intestine.

In dealing with the surgery of breast carcinoma, he first describes the result of recent investigations into the anatomy of the breast and its lymphatic system, and points out their bearing on its operative treatment. He has strong condemnation for any partial operation such as removal of the breast without also clearing out the axilla, even in cases in which no axillary glands can be felt; and he advises that the subcutaneous fatty tissue around the breast should be removed as far inwards as the sternum and as far upwards as the clavicle,

by freely undermining the skin. By thorough removal of the disease, Mr. Watson Cheyne contends that now it is not a question simply of prolongation of life, but in an ever increasing number of cases, of cure of the disease, and his own statistics of operation for cancer of the breast bear out his contention. He does not hesitate to remove a portion of the axillary vein when it is adherent to a mass of axillary glands, and has even removed on one occasion a portion of both artery and vein without any loss of vitality in the arm; but he does not agree with the recommendation of Mr. Arbuthnot Lane to divide the clavicle and clear out the supra-clavicular glands when they are involved, as he believes that the disease will then probably have reached the mediastinal set of glands and be ineradicable.

With regard to cancer of the tongue, Mr. Watson Cheyne lays stress on the advantage of removal of the tongue close to the hyoid bone, by Kocher's operation, in cases of deep infiltration of the organ, and of the removal of the glandular area in the submaxillary region, in the same way that we clear out the axilla in operating for cancer of the breast.

We consider that perhaps the most important part of the book is that which relates to operations for malignant growths in the throat. Of course such operations are always serious and the mortality attending them high; but the operations undertaken by Mr. Watson Cheyne for this terrible disease have been attended by a surprising amount of success considering their very formidable character. He not only gives us his own experience of these operations—undertaken both for epithelioma involving the throat and tongue and for sarcoma of the tonsils,—but also a most elaborate and extremely valuable table of the operations performed in such cases by other surgeons. When operating by external incision, his experience has been that ligation of the external carotid artery is very liable to be followed by secondary hemorrhage, as the wound is of course septic owing to its free communication with the mouth; and hence he prefers to divide the jaw and thus get free access to the tonsillar region for the purpose of readily dealing with all the bleeding vessels. Enlarged glands in the neck, unless they involve the vagus or carotid artery, he does not consider a contra-indication to operation, as they can be freely removed, together with the internal jugular vein, if they are adherent to it.

Mr. Watson Cheyne does not go so fully into the subject of intestinal cancer as he does into that of malignant disease of the breast or throat, but he contrasts the advantages to be derived from the palliative operation of colotomy with those obtained by excision of rectal cancers. He agrees with what he considers the views of the English school of surgery as opposed to the German, that it would be better to exclude from the radical operation cases of rapid growth where the disease forms a large ulcerated mass, and those in which it has extended

through the rectal wall and invaded surrounding parts, or is situated high up, though limited to the bowel.

Our outline of the contents of this book will be enough to indicate its great value to every operating surgeon, especially as it is written in Mr. Watson Cheyne's lucid and forcible manner, and as the outcome of the author's experience in the operative treatment of malignant disease.

We are at a loss to understand the absence of an index and the presence of forty-two pages of advertisements.

The Surgery of the Chest. By STEPHEN PAGET. Pp. x., 479. Bristol: John Wright & Co. 1896.

The surgery of the chest seems scarcely to lend itself to the formation of a book in the same way that the surgery of the abdomen does, but we are quite ready to admit with Mr. Paget that "now is the time when such a book can hardly fail to be useful: first, because there is a vast store of good material to be worked into it; next, because there are signs that we have reached a stage, in this portion of our art, beyond which, on our present lines, we cannot advance much further."

The book before us is divided into two parts; the first treating of injuries, and the second of diseases of the chest. The subject of fractures of the ribs is somewhat briefly dealt with, the author referring chiefly to the writings of Malgaigne, Hamilton, and Poland. Injuries to the lung and pleura are treated at greater length, and particular attention is given to the interesting subjects of pneumothorax and surgical emphysema. We could wish, however, that on such subjects as these the author had given us his own opinions and advice, instead of simply presenting us with the varied views of others and then leaving us to take our own choice. His plan has been to give a short outline of what has been written by other surgeons and then to fill in with abstracts of clinical cases illustrating various aspects of the diseases referred to. The result is that the book is very dry and uninteresting. It is hardly full enough for a book of reference, but is well adapted to serve the purpose of any surgeon wishing to hastily refresh himself on any point in which he may be interested at the moment.

In the second part of the book we find the subject of empyema very fairly dealt with. We are glad to see that the author protests—though somewhat mildly—against the present practice of resection of a portion of rib as a routine treatment of empyema. He refers to fifteen cases of empyema treated by one surgeon by incision without resection, every one of them successful, and says that he himself has treated it several times in this way with success; but he remarks that incision without resection is, at present, out of favour, and the removal of an

inch of rib has come to be almost an integral part of the operation. We are happy to say that resection of a portion of a rib is by no means a routine practice in Bristol, and we could furnish reports of scores of cases treated successfully by simple incision and drainage.

The operation of resection of large portions of the chest-wall for persistent empyema with fistula is fully described, and Schede's operation of "thorax-resection" and Estlander's operation of removal of portions of several ribs are particularly mentioned.

On the subject of operating for abscess in the lung the author is wisely very cautious. He alludes freely to the difficulties and dangers of the operation, but points to the encouragement afforded by a long record of successful cases. Even in the unfavourable case of operating for a tubercular cavity in the lung, proof is given that a patient may be saved from acute distress during the short span of life which is all that remains to him, and sufficient directions are found in this work to guide the surgeon as to the best methods of performing these and other operations on the lung.

We have no space to allude to the other topics in the book, which we can recommend as the painstaking work of one who has evidently studied the subject with great care and has performed his duty with scholarly ability.

An Inquiry into the Difficulties encountered in the Reduction of Dislocations of the Hip. By OSCAR H. ALLIS, M.D. Pp. xv., 171. Philadelphia. 1896.

This essay received the award of the Samuel D. Gross prize of one thousand dollars, "awarded every five years to the writer of the best original essay, not exceeding one hundred and fifty printed pages octavo in length, illustrative of some subject in surgical pathology or surgical practice, founded upon original investigations, the candidates for the prize to be American citizens."

The essay is a very valuable one, throwing much new light on the pathology and treatment of dislocations of the hip. The author has done his work in a truly scientific manner, not taking anything for granted, not even the valuable work of his fellow-countryman, Dr. Bigelow, but by experiment on the cadaver and by dissection of pathological specimens he has investigated afresh the various varieties of dislocations and the best way to overcome the difficulties in their reduction. The work is illustrated with 159 diagrams, and although some of them are very crude and somewhat difficult to understand, yet many are very valuable in enabling the reader to easily follow the text. The author would abolish the old nomenclature used in defining the varieties of dislocation of the hip, and

would introduce a new classification into inward and outward, each of these being subdivided into low, middle, and high. In reducing the outward form of dislocation he is emphatic in warning us of the danger of making use of the usual method of circumduction; he considers that by this method the sciatic nerve is often hooked up by the head of the femur, the immediate effect of which is a "flexion of the thigh upon the pelvis, and of the leg upon the thigh, owing to the sudden *shortening* of the nerve. The change in the course of the nerve will take up three or four inches of it, and render normal extension impossible." The nerve is thus stretched and flattened over the neck of the femur, its sheath torn, and its fibres separated. He gives examples of this accident happening in his own experience, and we therefore do not doubt the possibility of its occurrence; but the method of reducing outward dislocations of the femur by flexion and circumduction has proved successful in so many hands for so many years, that we should require stronger proof of its danger than we now possess before we willingly discontinued it.

Manual of Midwifery. By W. E. FOTHERGILL, M.B. Pp. xviii., 484. Edinburgh: William F. Clay. 1896.

Dr. Fothergill has produced a very useful and readable volume, which embodies more especially the teaching of the Edinburgh school. The chapters on the phenomena and diagnosis of pregnancy and the development of the early ovum are especially noteworthy; that on the mechanism of delivery is a very clear exposition of the different theories which are advanced to explain the phenomena occurring during the progress of delivery, and the points for and against their correctness are discussed in a lucid and able manner. The summaries given at the end of each section clearly and briefly set forth the chief points to be remembered, and very materially enhance the value of the work as a manual for students. The treatment of puerperal fever might have been extended with advantage, considering the enormous importance of the subject; treatment by curetting is mentioned, but only as regards its possible dangers, while the *technique* of the operation on the correct carrying out of which its success depends is entirely omitted. To state that "the most recent method of removing the source of infection is to remove the whole uterus by hysterectomy," without giving the special indications for performing an operation of such gravity, can only be regarded as a very inadequate and loose description of this method. No one, we hope, would recommend this method of treatment for cases of sapræmia, for example, where the removal of effete matter from the uterine cavity would probably be all that was necessary;

this, however, is the impression left on one's mind by reading the paragraph.

The author states as regarding the puerperal period that "bed should be kept for 10 days": this again is a statement that is certainly true, as ten days should be looked upon as the minimum; but the omission of the reasons for this, *e.g.* the rate of subsidence of the fundus and the average time at which it ceases to be an abdominal organ, with the various reasons which prolong this time, is a serious fault. This particular subject is one on which hints to the student or young practitioner are most valuable in securing the prophylactic treatment of many local disorders arising from the empirical management of the puerperal state. It is above all things important that the necessity of prolonging the lying-in period under certain conditions should be laid down distinctly, together with the conditions which call for it. No allusion is made to methods of preparing, for the use of the infant, cow's milk so treated as to render its composition nearly that of human milk (the so-called humanised milk), nor to the treatment of vomiting in the nurseling. The points just mentioned—the management of the puerperal state, the feeding of the infant, and the treatment of its earliest disorders—are just those which give the greatest trouble to the young practitioner, and a full description of these would greatly enhance the value of the work.

Several conditions producing risk to the mother and child are not sufficiently dealt with; for example, the only treatment of accidental hemorrhage given is rupture of the membranes, followed by version or forceps as soon as dilatation is sufficiently advanced, while hysterectomy is mentioned as an alternative in some cases. This is not an adequate description, for the opinions of the Rotunda school, Robert Barnes, and others should have been mentioned, even if the author considers his own recommendations superior. Prolapse of the funis, too, should have received fuller treatment; no single method is applicable to all cases, and the various conditions which call for different methods of treatment in any case of complication should be given.

The theoretical part of the subject is excellent, but no work of the kind can suffer from excess of detail and elaboration in the practical part of the subject.

Sterility. By ROBERT BELL, M.D. Pp. 88. London: J. & A. CHURCHILL. 1896.

In his preface Dr. Bell has given us his views on the relative importance of the ovum and spermatozoa, but he has not advanced any proof which can upset the generally accepted ideas upon this subject. It is not a fact that the cause of sterility is very seldom on the part of the male, as the author

would have us think. We have known a good many cases where the after-history of the women has proved that the fault of not bearing children did not rest with them.

We are disposed to admit that disease of the endometrium does account for a large number of women not bearing children, but that it is the main cause of sterility we very much doubt. Our own experience leads us to say that pregnancy does occur frequently in these women, but abortion at a very early stage often sets in, and these cases are put down as illustrative of true sterility. Of course the disease which produces early abortion is as fatal to the increase of population as those diseases which altogether prevent conception; but we are sure that a large number of women do become pregnant and go on to their full time with what the author would describe as endometritis, yet it is useful to bear in mind that this condition is one of the common causes of sterility, and one that can be remedied. It is well known that many abnormal conditions of the pelvic viscera lead to unhealthy states of the endometrium, and it is simply begging the question to say that these—the primal causes—are not the real sinners, but that the endometritis which they produce must be so regarded. Dr. Bell looks too much at one aspect of sterility, and overlooks a good many real and potent factors which have to be reckoned with. There is such a thing as relative fecundity, as was well laid down by Matthews Duncan, and we are convinced that many women perfectly normal in every respect do not conceive for reasons that we know very little about. The author's experience and our own are the same in so far that we recognise that a good many pelvic conditions such as he mentions do not give rise to symptoms until secondary changes take place in the endometrium; but we certainly have found sterility to exist in a large proportion of these cases long before symptoms of endometritis were complained of. The author's treatment of endometritis is of course perfectly sound, and is that adopted by most gynæcologists.

A good portion of the work goes beyond the scope of its title and really belongs more to the general subject of gynæcology. These little books, however, serve a very useful purpose by drawing attention to the views of men whose experience entitles them to write with authority.

Leitfaden der Hygiene. Von Dr. Aug. Gärtner. Zweite, vermehrte und verbesserte Auflage. Pp. xii., 407. Berlin: S. Karger. London: Williams and Norgate. 1896.

This introduction to hygiene is not intended to take the place of larger works which have been poured out in such numbers in Germany of late, and to which reference is given at

the end of each chapter. It is comprehensive, well arranged, and contains a large amount of information likely to be of value for the readers for whom it is designed. The printing is admirable, and the illustrations are good and numerous. The second edition has been revised and improved in many ways, and translations into Italian and French have already proved the value of the work.

Boletin del Consejo Superior de Salubridad. Mexico. Mayo 22 de 1896.—The medical men of the State and city of Mexico were determined not to let the centenary of the first successful vaccination by Edward Jenner pass without celebrating the event, and for this purpose they published a special number of their *Journal*, which contains a portrait of the doctor, two articles from the pens of Drs. J. R. de Arellano and Fernando Malanco, a poem composed for the occasion, and an official list of the number of persons vaccinated in the State since the lymph was introduced into Mexico by Dr. Balmis in 1804. After alluding to the fearful ravages of small-pox in different parts of the world anterior to 1796, the contributions proceed to describe with great accuracy the circumstances which led up to the immortal discovery which conferred untold blessings on future generations, and, especially, on the Mexicans themselves; for it appears from this pamphlet that a person in that climate who is once efficiently vaccinated will never in any event whatever contract small-pox, the protection for life being complete. Dr. de Arellano says: "One to whom the entire human race may look up with gratitude and respect, one who may with reason be called 'The great Benefactor of the Universe' is Edward Jenner, the grand discoverer of Vaccination." Further on he ejaculates: "May eternal praise and laudation be given to his sublime genius, and before him all generations should bow the knee!"

Chemical Notes and Equations. By G. H. GEMMELL. Pp. xi., 244. London: Baillière, Tindall & Cox. [1896].—This little book is very exactly described by its title, and is not unlike several others published under similar circumstances. It comprises the points generally touched upon in a course of elementary chemistry, and would form a convenient companion in the lecture room.

Elementary Anatomy and Surgery for Nurses. By W. MCADAM ECCLES. Pp. xv., 158. London: The Scientific Press, Limited. 1896.—This is a book devised to meet the requirements of the scientific nursing fad. Into it are introduced chapters on anatomy, physiology, and surgery, somewhat curiously shuffled. Thus, the second chapter deals with the osseous system, whilst chapter III. is devoted to the process of inflammation and the healing of wounds, the idea presumably

being to avoid tiring the mind with the effort which would be necessary to grasp the facts concerning the structure of the body if presented in unbroken series. It is evident that the author has experienced considerable difficulty in determining how much knowledge he ought to impart concerning structural details, and it is as clearly evident that he has not surmounted this difficulty. It may be confidently stated that the nurse who has carefully studied this book and committed its details to memory, will have a very curious smattering of knowledge. Drawings are introduced somewhat copiously. Those which have been executed specially for the book are exceedingly crude, and can serve but little practical purpose, for they are for the most part unprovided with reference letters. It would, for instance, be interesting to know what any nurse could make of Fig. 47. In Fig. 49 we are shown *two* posterior chambers of the eyeball. They can scarcely both be accurate. These are but a few examples of the character of this book. It exhibits a marked want of literary style, and is in some places deficient in ordinary grammar. A careful study of this work would result in the gain of a little knowledge by a nurse, but then a little knowledge has been said to be a dangerous thing. We have heard a nurse speak of pericarditis of the tibia! We leave the reader to imagine what she might say after the study of the smattering of facts grouped together here.

Clinical Diagnosis. By W. G. AITCHISON ROBERTSON, M.D. Pp. 366. London: The Scientific Press, Limited. 1896.—There are now many excellent books covering this field, and to establish a place for itself a new one must offer some special advantage. In his preface the author states that he has confined himself to those methods which he has found easy, rapid, and trustworthy. The book cannot, of course, take the place of the larger treatises on the subject as a work of reference. It is of convenient size, has a good index, and may thus be readily referred to for the ordinary tests used in clinical work. As to some of the more elaborate processes of research that are described in it, more detailed instructions are needed to make the descriptions adequate for successfully carrying them out. The book might either be increased in size, or, on the other hand, it might be still further cut down by leaving out all but the simple tests. The examination of the urine is more fully considered than the other subjects, taking up half the book: we notice that the total urinary solids are given differently in two places. The illustrations are not at all good, and the scale of magnification is not given.

Aids to Medicine. By NORMAN DALTON, M.D. Four Parts in two Volumes. Pp. vi., 125; vii., 128; vii., 132; vi., 122. London: Baillière, Tindall & Cox. [1896].—This professes to be a compendium of the practice of medicine in two small volumes, for assisting students in acquiring the minimum of

knowledge necessary to pass the examination for the lower-grade qualifications. No doubt the book will fairly well meet such requirement, where a fuller work has also been used by the student habitually. We can not think, however, that Dr. Norman Dalton, Physician to King's College Hospital, will exalt his reputation by a publication of this description.

Angio-neurosis: being Studies in Diseases of the Vaso-motor System. By W. RAMSAY SMITH, M.B. Pp. 78. Bristol: John Wright & Co. [N.D.].—The author describes two kinds of skin disease, general erythema and papular erythema, and then proceeds to unite them together under the generic title of angio-neurosis. But not the slightest evidence is given that either of them is due to a neurosis, or even to vaso-motor disturbances. A conspicuous feature in the book is the amount of padding: for instance, we fail to see any connection between the treatment of typhoid fever by internal antiseptics and the skin diseases above mentioned. This book forcibly reminds us of the saying of Don Quixote, that "there are men who compose books and toss them out into the world like fritters."

The Hydro-electric Methods in Medicine. By W. S. HEDLEY, M.D. Second Edition. Pp. 115. London: H. K. Lewis. 1896.—The second edition of this work is a decided improvement on the former issue, inasmuch as it specially deals with the therapeutical application of hydro-electricity. The valuable but very technical information on the conversion of "current from the main" for therapeutical purposes is now published separately and is noticed below. The author gives an excellent and clear description of the hydro-electric bath in sufficient detail, so that practitioners with but a minimum amount of practical knowledge of the physics of electricity are enabled to utilise this valuable appliance. The sinusoidal current bath and allied forms, the electric vapour bath and the electric hot-air bath, the electric douche, and local hydro-electric applications are described in some detail. The value of the work would be further enhanced, and the volume made more interesting, if we were told more fully what these various methods do for our patients, instead of simply how they may be applied; nevertheless, the book is one which at present fills a gap, and affords welcome information on methods which have hitherto been confined to a very small circle of medical practitioners.

Current from the Main. By W. S. HEDLEY, M.D. Pp. 34. London: H. K. Lewis. 1896.—This booklet, treating of the medical employment of electric lighting currents, is based upon some articles by the author which appeared in the *Lancet;* but certain points, especially those dealing with the constructive details of apparatus, are here considered more fully. In the first part Dr. Hedley discusses with tolerable completeness the precautions necessary to avoid the passage through the patient

of dangerously strong currents in using the electricity of public supply for medical purposes. The suggestions he makes are for the most part excellent, and indicate the practical character of his acquaintance with the subject. Why he should work out to five significant figures a resistance which depends on such uncertain quantities as baths and earths it is, however, difficult to see. The second part of the book is largely devoted to the discussion from the medical standpoint of the two kinds of supply—direct and alternating; the question of contact of the electrode with the skin being treated at some length. Here, too, most of what is said is good, though we cannot agree with the author's account on p. 15 of what happens on closing a circuit. In the case of a large E.M.F. applied to a resistance in series with the patient the current will attain its full value more rapidly than with a small E.M.F. and no external resistance, the inductance being the same for both; but it will not exceed its steady value without the addition of capacity at proper points on the circuit; nor is it likely to oscillate appreciably in such circuits as are here contemplated. The book concludes with a description of a neat "reducer of potential" devised by Mr. Quin. There is a slip on p. 4 in the expression for the resistance of two conductors in parallel. The fraction in line 3 should be inverted.

The Modern Treatment of Stone in the Bladder by Litholapaxy. By P. J. FREYER, M.D. Second Edition. Pp. 120. London: Baillière, Tindall and Cox. 1896.—Dr. Freyer has now performed Bigelow's operation of litholapaxy 610 times with only 11 deaths, so there is no wonder he speaks of it in terms of unstinted praise. It is to Keegan and Freyer that we owe the extension of this operation to children, and now most surgeons will agree with the author that "litholapaxy is no longer on its trial; it is now a firmly established practice; it has completely replaced lithotrity; and is destined to replace all forms of lithotomy, save in very exceptional cases." The present edition of this work gives us the latest modifications and improvements in the instruments employed in this operation, and, as might be supposed, considerable space is afforded to the operation as applied to male children. No less than 171 children have been operated on by the author alone, with only two deaths, thus showing the safety with which it can now be performed. We congratulate Dr. Freyer on the value of his work, and on the simplicity with which he writes.

Aids to Obstetrics. By SAMUEL NALL, M.B. Fifth Edition. Pp. 145. London: Baillière, Tindall & Cox. [1896].—This little book, if used in the way intended by its author, may be found useful for the refreshment of the memory by students preparing for their final examination in midwifery. If, however, it be used as a substitute for the larger text-books, it will produce an effect harmful, not only from the educational point of

view, but from that of the question of success or failure in examination; for its lack of amplification is misleading, while it contains numerous inaccuracies in matters of detail. Used simply for mnemonic purposes in conjunction with a standard text-book it will be harmless, and possibly beneficial, although this is not certain, since a knowledge of practical points rather than mere book-work is what is most required. The "aids series" in general are of doubtful educational value, and this one is not exempt from their usual faults. Its limited use scarcely counterbalances the tendency to induce the student to look upon the memory of the descriptive words, apart from an intelligent mental picture of any particular process, as the object of his study of the literature of midwifery.

Curettage of the Uterus: History, Indications, and Technique. By J. W. BALLANTYNE, M.D. Pp. 36. Edinburgh: Oliver and Boyd. 1896.—We have here an interesting account of the history of the operation of curetting the uterine cavity since its introduction, with results not immediately satisfactory, by Récamier. In the pamphlet are clearly set forth the conditions which call for its use, its possible dangers, advantages, and *technique*. Several illustrative cases are carefully described under the sections dealing with the conditions which may lead to the operation. The author is clear, and elaborates his subject with great detail: his remarks on *technique* are particularly noteworthy, and should correct a rather general impression that curetting is a simple and safe operation, of only slightly greater importance than passing a catheter. The pamphlet is very readable and instructive, without being dogmatic; the conclusions formed are sound and well weighed; debated points have the arguments for and against them stated clearly and without bias. It is difficult to see why it should be necessary to use a French word in describing a process which has an English, or at any rate Anglicised, name; in this respect German practice may be copied with advantage, although etymologically no doubt the author is correct.

Handbook of Diseases of the Ear. By URBAN PRITCHARD, M.D. Third Edition. Pp. xvi., 275. London: H. K. Lewis. 1896.—In preparing this third edition the author has largely re-written it, and has added about thirty pages of new matter, the result being that the book is somewhat larger, but is certainly considerably improved. It is written in a simple, easy style, without much of the minute technical detail found in many of the larger works, but containing all that is absolutely necessary for a good understanding of the nature and treatment of ear diseases. Among the new matter we notice especially a chapter devoted to the chief methods of operating for the removal of adenoid vegetations from the naso-pharynx. For this operation the author recommends the administration of a general anæsthetic, and the use of the finger-nail in preference to any other instrument. We do not agree with

him in this preference; but we have no doubt that with constant practice the method may produce good results. The operation for removal of the ossicles in cases of chronic and intractable suppuration of the attic is favourably spoken of and well described. The curious condition known as Cholesteatoma is considered separately. A good elementary description of the intra-cranial complications met with in chronic middle ear suppuration is given, and an outline of the best methods of dealing with them: but we notice that in describing Ballance's operation for sinus thrombosis, the author tells us to tie the *external* jugular vein,—this is obviously a misprint for *internal*; but it might mislead the unwary, especially as in every other place where the operation is mentioned the vein to be ligatured is simply called "the jugular vein." Upon the whole we can recommend the book as one of the best small works on the subject, and as eminently suitable for students and practitioners.

Du Traitement chirurgical de la Surdité et des Bourdonnements. Par Dr. E. J. MOURE. Pp. 11. Bordeaux: Feret et Fils. 1896.—Dr. Moure here discusses the operation of removal of the ossicles, and particularly the operation of excision of the stapes for various forms of deafness, and comes to the sensible conclusion that while it is often useful in cases of caries with chronic suppuration, yet it should be recommended with great caution where it is done simply to relieve deafness and tinnitus.

De la Prothèse appliquée au Traitement des Empyèmes de l'Antre d'Highmore. Par Le Dr. SIMON DUNOGIER. Pp. 14. Bordeaux: G. Gounouilhou. 1896.—The author in this little pamphlet describes his method of treating suppuration in the maxillary antrum by the extraction of the first molar or second bicuspid tooth, and the insertion of a vulcanite plate having a pivot attached to its upper surface for keeping open the orifice, and an artificial tooth to its under surface to prevent deformity, and to keep food from entering the cavity during mastication. He directs that the apparatus should be removed daily, and the cavity syringed out. We consider that no better plan has yet been devised for treating this troublesome malady.

The Anomalies and Evils of the Medical Administration of India. By K. N. BAHADURJI, M.D. Pp. 70. London: A. Bonner. 1896.—This deals with a very old and long-standing question in India, which has been repeatedly discussed. The position of the medical profession in India is a strange and anomalous one. It has no parallel in any other country. It is the outcome of our occupation of the country since the days of Clive. We took India with the sword: we hold it still with the same weapon. There were no European medical men in India for many years, except those connected with the English army of occupation, the surgeons and assistant-surgeons of English

regiments, and, as time moved on, the old East India Company's army supplied the only educated medical men; and these men were naturally appointed to Civil positions, and became the only practitioners in the country, first to their own countrymen, and gradually to the Native population. To-day there are three distinct services, two purely military—Her Majesty's Army Medical Department and the Indian Medical Department—and one Civil Medical Department. The two former are covenanted, the latter is uncovenanted. This pamphlet contains a number of arguments, principally emanating from Native medical men and from the Native press, calling loudly for reform, on the ground that all the best medical appointments in the country are divided between the two Military Departments, and the Civil Department is left out in the cold. The Civil Department is recruited principally from the natives of India, and they complain that they are overworked, and do not receive the same consideration as the other two. Their case is a hard one; but there is something to be said on the other side. If all the good appointments are taken from the two Military Departments and handed over to the Civil Branch, the one inducement to highly educated medical men to enter either of the Services will be removed.

Disease and Defective House Sanitation. By W. H. CORFIELD, M.D. Pp. 55. London: H. K. Lewis. 1896.—This small volume reproduces the substance of two of the Harveian Lectures delivered by Dr. Corfield in December, 1893. It gives in readable form, with the aid of suitable diagrams, the chief points of importance connecting disease and defective sanitary arrangements. The wide diffusion of accurate knowledge on these points is both useful and necessary.

Food in Health and Disease. By I. BURNEY YEO, M.D. New and revised Edition. Pp. viii., 592. London: Cassell and Company, Limited. 1896.—This new edition of a well-known and valued text-book has been enlarged and improved. That it has been a practically useful guide to the study of dietetics has been shown by the need for many reprints since the publication of the first edition in 1889. The consideration of the adaptation of scientific dietetics to the needs of the sufferer from acute and chronic diseases forms the most useful part of the volume. It is one of the best of guides on all points relating to the feeding of the sick. It is a much better looking book than the first edition, which we reviewed soon after its appearance.

Dress and Health: an Appeal to Antiquity and Common Sense. By CHARLES MOORE JESSOP. Pp. 47. London: Elliot Stock. 1896.—These two essays, read before the British Medical Association in 1887 and 1889, are worthy of reproduction, although there is less need for them now than formerly. The author was quite a pioneer in protesting against the deluging of

patients with meat washings and the great waste of meat by disposing of the fibre as refuse: his principle is that there should be neither refuse nor remainder. He finds that four ounces of meat can be suspended in one pint of water, and that two to four ounces of such fluid given every three or four hours are sufficient for any sick man.

Dr. Tiebel's Official Handbook of Spas, Watering Places, and Health Resorts. Pp. vii., 74. London: Charles Letts & Co. [1896].—This is a useful little *multum in parvo*, a curious mixture of notices of spas with advertisements of pills, cancer serum, and German rusks. The only mention of Bournemouth is an advertisement of a boarding-house. Bath and Droitwich have each a page, Harrogate has four, but they all look like advertisements. The book is not one for serious criticism, nor is it worthy of much commendation. We wonder in what sense it deserves the designation "Official."

The Johns Hopkins Hospital Reports. Vol. V. Baltimore: The Johns Hopkins Press. 1895. — This volume of these valuable Reports begins with an elaborate and painstaking paper by Dr. W. S. Thayer and Dr. J. Hewetson upon "The Malarial Fevers of Baltimore." No less than 616 cases have been under their observation, and in 544 cases the malarial organism was discovered and studied. In Baltimore there are three forms of malarial fever—the tertian, quartan, and æstivo-autumnal. The organism found differed in these three fevers. Careful descriptions are given of the development of the intracellular and extracellular forms of these parasites. Comments are made upon the nature of crescentic bodies and flagella, but these observers are not able to come to any satisfactory conclusion as to their nature, and consider that they require further study. A consideration of some fatal cases of malaria by Dr. L. F. Barker follows. In one of these cases there were areas of necrosis in the liver, surrounded, as is usually the case with such patches, by leucocytal infiltration. Dr. Barker seems to think that such a condition is probably the first step towards the cirrhosis of this organ, which has from time to time been described as a sequence of malaria. This writer makes some interesting remarks upon phagocytosis in malaria, and gives an illustration showing macrophages in the spleen with malarial parasites in their interior. Valuable though these papers upon malaria are, the majority of physicians will probably be more interested in the articles upon typhoid fever. Dr. Osler gives a further analysis of 160 cases, making altogether 389 cases studied by him. The varied characters of the rash, the temperature, severity of diarrhœa, frequency of hemorrhage, perforation, and other rare complications, as illustrated by these cases, are passed under review. Amongst other interesting points are the records of two cases of apparent recovery from perforation. A short paper upon "The Cold-bath Treatment

of Typhoid Fever" follows. In 299 cases there was a mortality of 6.6 per cent., which, as Dr. Osler points out, is very favourable compared with the statistics of cases treated by other methods. For example, the Report of the London Fever Hospitals, issued in 1893, gave a mortality of 17 per cent. for typhoid fever. Other valuable papers follow. One by Dr. Blumer on "Pyuria in Typhoid Fever," in which the bacillus coli communis was the most common organism found, would lead us to suppose that serious secondary lesions may generally be due to other organisms than the typhoid bacilli. Other papers, however, by Dr. Flexner on various secondary infections, and by Dr. Harold Parsons on post-typhoid bone lesions, show that the typhoid bacillus may be responsible for a great deal more than the production of intestinal ulceration. To refer again to the pyuria described by Dr. Blumer, it may be said that it was found as often as ten times in sixty cases. This volume closes with three other papers by Dr. Osler and one by Dr. Reed. The papers by Dr. Osler are upon "Neuritis during and after Typhoid Fever," "Chills in Typhoid Fever," and "A Study of the Fatal Cases." The paper by Dr. Reed is upon "The So-called Lymphoid Nodules of the Liver in Typhoid Fever." We cannot close this brief review without expressing our admiration for the continuous stream of able work that issues from the institution which gives these Reports their name.

Edinburgh Hospital Reports. Volume IV. Edinburgh: Young J. Pentland. 1896.—These Reports contain, as the previous volumes led us to expect, a large number of papers—forty-nine in all—of great interest and value. They afford a striking testimony to the value and extent of the scientific work on the investigation of disease in its clinical and pathological aspects done at the Edinburgh Royal Infirmary. We cannot attempt to give an account of so many papers here, but can only say that these Reports deserve to be widely read. They are as usual well printed, and many of the papers are beautifully illustrated. The book does great credit to everyone concerned in its production.

Thirty-fifth Annual Report of the Cincinnati Hospital. Cincinnati: The Commercial Gazette Job Print. 1896.—The cases reported in this volume are hardly given in sufficient detail to be of value. The numerous tables of cases treated in the Hospital may be of use to the statistician, but will not do much to advance medical science.

Transactions of the College of Physicians of Philadelphia. Third Series. Vol. XVI. Philadelphia: Printed for the College. 1894.—A remarkable paper on "Hydrophobia in the United States" tends to the conclusion that there is nothing specific in the saliva of a so-called mad dog, and that hydrophobia is not a specific inoculable disease. It is quite refreshing to find a writer so courageous as this: he gives

altogether a new aspect to the hydrophobia question. Various papers on acute and chronic appendicitis, and Dr. Stewart's researches on the reactions of nucleo-albumin (erroneously styled mucin) with the commonly employed urinary albumen tests are the most noteworthy features of this volume.

Transactions of the Grant College Medical Society, Bombay. From January to December, 1895. Bombay: The "Tatva-Vivechaka" Press. 1896.—This volume is of more than local interest, and shows that our Indian *confrères* are well versed in the latest developments of modern science. The book stands in need of a Table of Contents and an Index. A more careful correction of the proofs would prevent many of the elementary errors which we notice on almost every page.

Transactions of the British Balneological and Climatological Society. 1896.—**The Journal of Balneology and Climatology.** Vol. I. Part I. January, 1897. London: John Bale & Sons.—The Society with the massive title given above has come to the conclusion that, in addition to records of its proceedings, a quarterly journal, dealing with the subjects which it is its purpose to consider, is necessary for the world's enlightenment. The editor of the journal is evidently impressed with the magnitude of the task before him, and he will certainly have to exercise considerable care and discretion in accepting papers, in order to avoid the appearance in his pages of that which might be considered to be little more than advertisement of certain health resorts. There should be no undue laudation of these. In the journal there is a paper on the climate of Ilfracombe. We in this neighbourhood well know how admirably adapted it is for many patients; but no scientific purpose can be served by a writer who attempts to class it with "the Riveira *(sic)*, South Africa or Australia." The most interesting article in the journal is Dr. Ewart's on the decrease of ague and aguish affections in London. In future numbers the reports of the meetings should be considerably shortened. The Society evidently has some intention of being practical, as it devotes over fifteen pages of the *Transactions* to a discussion on the need of increasing travelling facilities in connection with British health resorts. By the rules of the Society homœopaths and persons carrying on "irregular practice"—whatever that may mean—and women are excluded. This is unfair on legally-qualified women who are as much members of the profession as men are, and does not confirm the statement that the rules "have been framed upon the broadest and fairest principles."

Transactions of the Obstetrical Society of London. Vol. XXXVII. London: Longmans, Green, and Co. 1896.—Space allows us to only briefly call attention to some of the communications which make up this very interesting and useful volume. In "Observations on the Temperature, Pulse, and Respiration during Labour and the Lying-in," Dr. Probyn-Williams and

Mr. Lennard Cutler record some valuable evidence of the variations from the normal caused by those conditions. As regards the pulse, they consider that the low rate of pulse usually described as obtaining soon after delivery is exaggerated, but that a diminution of rapidity does take place. Their observations on the temperature agree with those of Dr. Giles noticed in last year's *Transactions*. Respiration rate follows the pulse rate rather than the temperature. In a paper "On the Common Form of 'White Leg' after Confinement," Dr. Hubert Roberts gives details of sixteen cases. He classifies the condition, after excluding those due to pressure, certain general diseases, and general septic conditions, into (*a*) Cases associated with thrombosis apart from sepsis. (*b*) Cases of sepsis and thrombosis combined. He shows that the cases most commonly met with are those in group (*a*), while true phlegmasia alba dolens, placed under group (*b*), is comparatively infrequent. Drs. T. G. Stevens and W. S. A. Griffith contribute some valuable "Notes on the Variation in Height of the Fundus Uteri above the Symphysis during the Puerperium." The practical importance of these observations is, that any serious deviation from the normal rate of fall should act as a danger signal (provided that certain sources of error which are mentioned are excluded) and lead to the suspicion of retained clot, etc., and the possibility of sapræmia, while the getting-up of the patient should not, as is often the case, be governed by rule of thumb, but by the actual disappearance of the fundus on its becoming once more a pelvic instead of an abdominal organ. Dr. G. D. Robinson, writing "On Certain Micro-organisms of Obstetrical and Gynæcological Interest," points out the constant presence of streptococcus pyogenes in the blood and tissues in fatal cases of puerperal sepsis. Its importance is due to the fact that it can penetrate the deeper layers of uterine tissue, instead of being filtered off by the mucous membrane, as are others. The bacillus coli communis is also mentioned, and its importance as the possible cause of puerperal complications demonstrated. To this cause have been attributed cases in which high fever, rigors, etc., in puerperal women have occurred with constipation, and disappeared on removal of the constipation; and undoubtedly peritonitis might occur in cases where injury to the rectal wall has occurred in cases of neglected protracted labour, with the head above the brim. The gonococcus is also shown to be a source of danger, but in a less degree, as it is said to die at the maximum temperature of even a hot day in this country.

Transactions of the American Dermatological Association. New York: Geo. L. Goodman & Co. 1896.—We have here a volume of 195 pages, with many illustrations, some of which are coloured, and which are, upon the whole, well done. The first plate, illustrating Dr. Fordyce's case of angiokeratoma of the scrotum, is the best one of this disease we have ever seen.

The statistical returns of this Association are of very great interest, and embrace 24,321 cases. Of them eczema forms 25.78 per cent.; psoriasis about 2.5 per cent.; dermato-syphilis rather over 10 per cent.; and herpes zoster 1 per cent. The returns for eczema are massed under one head only, although the table provides for seven subdivisions, exclusive of the seborrhœic form. They should either be classified or the distinction abandoned. The volume contains many interesting and useful papers, of which perhaps the most valuable is that on "Sleep in its Relations to Diseases of the Skin," by Dr. Duncan Bulkley, of New York. He carefully discussed the causes of sleep-disturbance under six classes; viz., digestive, toxic, circulatory, nervous, psychic, and cutaneous. He deprecated the use internally of opiates, and especially when the cutaneous surfaces were involved. Antipyrin, in repeated doses of five grains, seems in his hands to have relieved osteocopic and neuralgic pains in syphilis, and also the neuralgia following herpes zoster in old people. We should prefer antipyrin, and we cannot overlook the comfort obtained by opiates in old syphilitic subjects. We are sorry to find such an excellent volume sent out with neither a table of contents nor an index.

The Year-Book of Treatment for 1897. London: Cassell and Company, Limited.—This annual, while needing no introduction to practitioners, may once more be assured a welcome, for it fully maintains the reputation of previous issues. The staff of contributors has been changed in respect to some of the sections. Diseases of the lungs are now looked after by Dr. Gustave Schorstein; diseases of the kidneys by Dr. F. Boyd; rhinology and laryngology by Dr. St. Clair Thomson; hygiene by Dr. Willoughby; therapeutics by Dr. Nestor Tirard. These names are a guarantee of able work.

The Medical Annual. Bristol: John Wright & Co. 1897.—We think that the value of this Annual would be enhanced if, in dealing with various methods of treatment and the exhibition of new remedies, the authors of the articles would separate the wheat from the chaff. To do this implies wide clinical experience, such as may not be possessed by every one who is qualified to act as an abstractor of the statements of various writers. What the busy practitioner wants in such a book as this is to be able to turn to a certain disease, and to find accurate guidance given to him in the selection of trustworthy new treatment. The quality of the articles in this volume varies greatly, as is inevitable where the staff of contributors is so large, and one of them, that on post-nasal adenoids, is distinctly misleading and retrograde. We hope that no one will deny efficient relief to children suffering from this serious trouble, because he reads this article and finds opinions expressed there which are at variance with all clinical experience. The benefits of thorough removal of post-nasal adenoids are incontestable. The

book is very well got up, the illustrations are numerous and good, and it is well worthy of the attention of the general practitioner.

The Scottish Medical and Surgical Journal. Edinburgh: William F. Clay.—This new monthly Journal, the first number of which appeared in January, claims to be a national one, and to represent medical work done all over Scotland. Edited by Dr. William Russell and published under the auspices of a powerful staff in Aberdeen, Dundee, Edinburgh, and Glasgow, it is under the sole direction of members of the profession whose names and positions are a guarantee of its representative character and of the quality of the work likely to be found in its pages. The first number contains eight original papers, together with the usual reviews and notices of books, concise reports of meetings of medical societies, a digest of recent work and literature, and Scottish medical news. We may venture to predict that our new contemporary will prove a brilliant success.

The Middlesex Hospital Journal. Vol. I. No. I. January, 1897. London: Mitchell and Hughes.—The first number of this journal contains an excellent characteristic portrait and short biography of the late J. W. Hulke. There is a practical illustrated paper by Mr. Henry Morris on stone in the bladder, dealing with perineal lithotrity and the relations of the X rays to diagnosis; notes on the condition of the knee-jerks in fracture and dislocation of the spine, by Dr. Campbell Thomson; notes on a case of transposition of viscera; a history of the Hospital Medical Society, by Dr. Wynter; and much local information. With such a good start, the journal, which is to appear five times in the year, promises well.

Professional Nurses' Diary. 1897. London: Burroughs, Wellcome & Co.—This time last year we spoke in high terms of praise of this excellent production. This year's issue surpasses its predecessor in outward attractiveness, and is at least equal to it in general usefulness.

That excellent periodical the *Journal of Cutaneous and Genito-Urinary Diseases* is now edited by Drs. Jas. C. Johnston and George K. Swinburne, and issued by the The Physicians Publishing Co., 115 West 84th Street, New York.

Even the old-established *Edinburgh Medical Journal* has undergone a change. The editor is now Dr. G. A. Gibson, who does not rely entirely upon his Scottish brethren for his material, but is largely helped by London. The Journal is now published by Mr. Young J. Pentland, a guarantee that its typographical and pictorial attractiveness will be of the highest character.

The editors of *Mathews' Medical Quarterly* announce that, beginning with this year, the publication is to be known as *Mathews' Quarterly Journal of Rectal and Gastro-Intestinal Diseases.*

Notes on Preparations for the Sick.

Ferratin. — Boehringer & Soehne, Mannheim. — This is described as the ferruginous element of food. It is a fine powder of reddish-brown colour, without odour or taste, containing about seven per cent. of iron. It is artificially prepared from egg-albumen and iron salts in alkaline solution; it is not a mechanical mixture, but a chemical combination of iron and albumen, resembling in all respects that which can be obtained from the liver of the pig, and which is looked upon by Schmiedeberg as the natural form in which iron is taken in food. In an exhaustive clinical investigation of the action of Ferratin as a drug it has been found to give encouraging results, and has shown itself to be worthy of trial for all those cases where the ordinary iron salts do not at once accomplish the end in view. Twenty to thirty grains may be given daily.

Tabloids: Lithia Bitartrate, gr. v.; **Lithia Citrate,** gr. iv.; **Cerium Oxalate,** gr. v.; **Erythrol Tetra-Nitrate,** gr. j.; **Caffeine Comp.,** gr. iv. (caffeine gr. j., antipyrin gr. iij.); **Phenacetin Comp.** (phenacetin gr. iv., caffeine gr. j.); **Cascara and Belladonna; Piperazine,** gr. v. (uric acid solvent); **Uranium Nitrate,** gr. j. (for diabetes); **Residuum Rubrum,** gr. v.; **Chloralamid and Bromide of Potassium,** āā. gr. v.; **Red Gum** (eucalyptus rostrata); **Quinine Salicylate,** gr. iij.; **Colchicum Compound** (acetic extract of colchicum, gr. j., salicylic acid, gr. iss.); **Blue Pill and Compound Rhubarb** (blue pill gr. iiss., comp. rh. pill gr. iiss.); **Iridin Compound** (iridin gr. ij., ext. hyoscy. gr. ½, comp. rh. pill gr. iss.); **Mercury with Chalk and Opium** (mercury with chalk gr. j., opium powder gr. $\frac{1}{6}$); **Pepsin, Bismuth, and Strychnine** (pepsin gr. j., bism. subcarb. gr. iij., strych. sulphate gr. $\frac{1}{100}$); **Pepsin with Strychnine** (pepsin gr. j., strych. sulph. gr. $\frac{1}{100}$); **Trional,** gr. v.; **Tetronal,** gr. v.; **Bromide Compound** (strontium bromide gr. ij., sodium bromide gr. ij., ammon. bromide gr. j., sodium arseniate gr. $\frac{1}{60}$); **Codeine,** gr. ½; **Saxin** (600 times sweeter than sugar), gr. ¼.—Burroughs, Wellcome & Co., London.—These additions to the now long list of Tabloids have a range of utility, which is for the most part indicated by their composition and their description. The **Residuum Rubrum** are prepared from the carefully dried red residuum of venous or arterial blood. They have been found

useful in osteo-arthritis, given in doses of twelve five-grain tabloids daily. The liquid preparations of Sanguis are very distasteful to most patients, but we see no reason why the ½-gr. tabloids should not be taken freely by those patients who can easily swallow pills. The **compound tabloids** appear to be excellent and useful combinations of their various ingredients.

Nutroa Food.—NUTROA LIMITED, London.—A comparison of the chemical composition of this food shows that it does not materially differ from the "ideal diet for children" given by Dr. Halliburton. The proteids amount to 19.64 per cent., the carbo-hydrates to 67.02 per cent., and the fats to 12.12 per cent. It is a cooked, malted food, enriched by the addition of proteids, and therefore it contains within itself in an easily-digested form all the elements of a sufficient diet. These compound foods may be perfect in theory as a simple but sufficient diet, but we have yet to find the patients who will submit to live on a repetition of the dose of such foods without variation. It is necessary that foods should be agreeable to the palate as well as that they should have a satisfactory chemical composition, and hence there is the less need that any one food should have the normal proportion of proteids of an ideal diet. Dr. Halliburton informs us (*Brit. M. J.*, 1896, i. 563) that he has not authorised the use of his name in connection with this food, as "the ideal diet for children," and that he does not consider it to be in any sense a substitute for human milk. Nevertheless it is clear that a food of this composition must often be useful, and that its nutrient value is far in excess of the ordinary farinaceous foods in daily use.

Kreochyle, Barff & Wire's Liquid Meat.—THE KREOCHYLE Co., London.—The promoters claim for this "liquid meat that it is in every sense of the word a food, containing the whole of the soluble albumen in an uncoagulated condition, which can be digested by the weakest stomach. It is also a powerful stimulant, containing, as it does, the whole meat extractives." We do not question either of these statements; but nevertheless we cannot but combat the idea that these fluids are so concentrated as the promoters would have us believe. When we are informed that the intestine of a turkey filled with Kreochyle and suspended in water discharged 90 to 92.5 per cent. of its albumen into the surrounding water, we naturally infer that the amount of albumen is large and the fact an important one, and hence it is of interest to enquire how much albumen the fluid contains. The picric acid tube answers this question by showing that the amount of albumen (0.1 per cent.) is much less than is

often contained in ordinary albuminous urine of a minor grade, and which is discharged daily by the pint, whereas the ordinary dose of the liquid meat is only a fraction of an ounce. The fluid has a gravity of 1024, and gives the hæmoglobin bands with the spectroscope. The hæmoglobin and extractives have a physiological value both as food and as stimulant, but that value may be easily over-estimated, and the term liquid meat conduces to this end. Patients take this fluid freely and without complaint; it has no positive objectionable qualities.

Champagne.—CHARLES HEIDSIECK, Reims.—Till we received samples of this wine we thought there was only one Heidsieck of "Dry Monopole" fame; but it seems from a pamphlet sent with the wine that the only Heidsieck of Reims is the firm bearing the trade-mark of this brand. The pamphlet gives a clear account of the processes through which the wine goes before it results in the form familiar to us.

Canadian Club Whisky.—HIRAM WALKER & SONS, London.—This is a pure and well-matured spirit; its age and genuineness are guaranteed by the Excise department of the Canadian Government by certificate over the capsule of every bottle. It possesses a dark rich colour, and a special flavour of its own. It is matured in barrels, which are burnt on the inside, thus giving a coating of charcoal, which helps materially to purify the spirit from fusel oil and deleterious ethers. We have found that the peculiar flavour of this spirit soon lends it an especial charm.

Chinosol.—B. KÜHN, London.—This is a new antiseptic, which is non-poisonous and non-corrosive. It does not coagulate albumen, and is freely soluble in water. We have tried it and found it pleasant to use, and without the disagreeable odour of many antiseptics.

Lung Gymnastics.—The use of an improved breathing-tube for the inhalation and exhalation of common air is advocated by the Hygienic Supply Company, of Boston, Mass. The tube, as we infer from the description of what we have not seen, is arranged to give increased resistance in exhalation, whereas the inhalation is not impeded; accordingly it tends to develop the respiratory muscles and increases the capacity of

the lungs. The tube is to be used for five or ten minutes continuously three times a day, gradually increasing to half-an-hour thrice daily. When you can do this easily with the small valve "you may be sure you are on the road to good health." This is the statement of the promoters, but we must refrain from expressing any opinion on this proposal to improve the normal form of the respiratory channels.

A New Pleximeter.—Down Bros., London.—In the Report on Medicine last September attention was drawn to a hammer suggested by Dr. Kingscote, of Salisbury, for the purposes of combined auscultation and percussion. Dr. Kingscote says:

"Ever since 1761, when percussion as a means of physical diagnosis was first suggested by Avenbrugger of Vienna, it has been generally recognised that deep percussion of the thorax is not free from uncertainties arising—(1) from the vibrations of the chest-wall veiling the note really given out by the structure underlying the plessor, and (2) from the fact that percussion, when sufficiently hard to produce a true note, is apt to hurt the patient. I have devised a pleximeter which overcomes all these difficulties. It consists of a wooden cone,

made with a shoulder to which a thick indiarubber ring is attached in such a manner that when the instrument is firmly pressed against the chest the apex of the cone touches a definite point on the skin in the centre of the ring. If the other end of the cone be now struck smartly with a hammer having a flexible handle, the true note of the underlying structure is elicited. The fact that experiments have been repeated many times with invariably uniform results proves the possibility of obtaining an accurate definition of the boundaries of the heart even when it is overlapped by lung tissue. The dulness shown by the pleximeter is always somewhat external to that elicited by finger percussion. A special form of hammer is used with the pleximeter, its head being made of lamb's-wool so compressed that it cannot be beaten out of shape—a necessary condition for the production of an absolutely true note, and it is of such a weight that the required note is obtained without the absorptive power of the surrounding ring being overcome. The finger may, however, be employed as a hammer with equally good results when the wrist is very flexible. In using the pleximeter it must be applied firmly to the region to be percussed, and there must be no alteration in its position when it is struck with the hammer."

MEETINGS OF SOCIETIES.

Bristol Medico-Chirurgical Society.

December 9th, 1896.

Dr. A. E. Aust Lawrence, President, in the Chair.

Dr. J. Lacy Firth showed a specimen of multiple aneurysms. There was one of each axillary artery and of the innominate artery and of the right carotid. The specimen had been obtained from a man aged 68. He had bronchitis of twenty years' duration, and surgical interference did not seem called for. The signs of intra-thoracic aneurysm were pulsation in the second right intercostal space and impaired percussion resonance of the pulsating area.

Dr. James Swain showed a renal calculus which, three months ago, he had removed from a patient of Mr. T. F. Edgeworth's. The diagnosis had been made clear by skiagraphy (see p. 9).—Dr. Theodore Fisher mentioned that he had seen a renal calculus removed by Mr. Jacobson which was covered over with small shining crystals of oxalate of lime.

Mr. Arthur W. Prichard showed two patients whom he had trephined for compound depressed fracture of the frontal bone (see p. 27).—Mr. J. Ewens mentioned the case of a child admitted into the Children's Hospital with an abscess over the left parietal eminence. The child had a stone thrown at her three weeks previously. She was stunned, but soon rallied, and excepting some vomiting and headache for three or four hours, suffered no inconvenience, and ran about as usual, swelling and abscess following. On opening the abscess, pus and brain-substance exuded through an opening in the skull of the size of a florin. The skin was replaced and the wound healed kindly. No brain symptoms followed. The child remained in the hospital for a month, and was discharged cured. When seen some years after, there had been extensive reproduction of bone; only a very small soft spot to be felt in the centre.

Dr. F. H. Edgeworth narrated a case of poisoning by tomatoes. A boy was found lying unconscious in the street, with a half-emptied box of tomatoes beside him, and was brought to the Bristol Royal Infirmary on the evening of July 16th. He subsequently confessed that he had been steadily eating them all day long. On admission he was unconscious and collapsed, but after a few hours partially recovered his senses. During many hours he repeatedly vomited and passed half-ripe decomposing tomatoes. The temperature gradually rose, and for the next week varied between 99° and 101.5°, then sank to normal and remained so. The semi-conscious condition persisted for three days after admission, and was succeeded by one of mental weakness and irritability lasting for nearly a fortnight. In addition, however, there was much intolerance of light, together with severe frontal headache and retraction of the head; and on July 21st, five days after admission, there was double optic neuritis fairly well marked.

These signs of meningitis gradually subsided and disappeared within four weeks. The muscles of the limbs wasted, with loss of knee-jerks and slight electrical degenerative reaction in the extensor muscles of knees and anterior tibial muscles; but there was no anæsthesia of the skin nor tenderness of the nerves and muscles, nor were there any pains radiating down the nerves. The peripheral neuritis, evidenced by these signs, was never very acute and slowly subsided; and the boy went home well, six weeks after admission. This case affords some evidence that both meningitis and peripheral neuritis may result from food-poisons, and suggests that in cases where the etiology of such conditions is doubtful, enquiry should be made for previous symptoms, such as gastro-intestinal irritation, which might give a clue towards the discovery of such a case.—Dr. T. FISHER referred to the point of interest of the case upon which Dr. Edgeworth laid stress—namely, that the food-poisoning occurred through eating vegetable, but not decomposing animal matter. He mentioned that a certain number of deaths from food-poisoning were recorded annually during the months of July, August, and September, and that probably others occurred which were not recorded. He had made two *post-mortem* examinations during the months of July and August, 1896, in which no cause for death could be found, which he attributed to food-poisoning. In the previous year he had made a *post-mortem* examination on a similar case.—Dr. H. WALDO said Dr. Edgeworth's case reminded him of a patient he took into the Bristol Royal Infirmary some years ago with gastro-enteritis and collapse. The patient, a young girl, had partaken of tinned salmon; she presented signs of peripheral neuritis, her knee-jerks were absent, and there was double optic neuritis present. At the time Dr. Waldo attributed the symptoms to ptomaine poisoning.—Mr. PAUL BUSH asked if anyone else partook of the fruit, or if it was ascertained whether the fruit came from abroad, as in that case it might easily be decomposed.—Dr. G. PARKER mentioned two cases of probable food-poisoning occurring soon after each other in the same house. The first commenced with violent vertigo, which continued some days. There was also vomiting, a very rapid heart, albuminuria, and persistent localised pain in the right side of the abdomen. After a slow recovery of his patient, a married daughter had a similar attack, where the abdominal pain persisted some weeks and was accompanied with pain and tenderness in the limbs. After these symptoms had passed away, marked wrist-drop and difficulty in standing followed.—Dr. SHINGLETON SMITH alluded to the botanical aspects of the tomato, the Lycopersicum esculentum of the East Indies, and its association with the other Solanaceæ, most of which are poisonous, but one (the Solanum tuberosum) a common article of diet. He thought that in this case the quantity of tomatoes eaten was a more important point than the presence of anything positively poisonous.—Dr. A. CARR mentioned a case which came under his notice in which a boy of ten years, of weak intellect, was found very faint and ill with vomiting and diarrhœa. He had eaten freely of potato apples. He was cured by a mustard emetic.—Dr. J. E. SHAW said that the tomato, upon its introduction from America towards the end of the 16th century, was known as the "Love-apple," and was supposed to be possessed of aphrodisiac properties. It is figured and so described in Gerarde's *Herbal*, published in 1597.—Dr. MARKHAM SKERRITT thought that possibly decomposition taking place in the alimentary canal itself might aid in producing toxic symptoms.

January 13th, 1897.

Dr. A. E. Aust Lawrence, President, in the Chair.

Dr. H. Waldo showed a man, aged 42, a labourer by trade, who was admitted to the Bristol Royal Infirmary on November 11th, 1896. His symptoms, together with the physical signs, suggested a deep-seated saccular aneurysm of the second part of the aortic arch. The diagnosis seemed confirmed by the tracheal tugging which was a well-marked feature of the case.—Mr. W. J. Penny cited the case of a man, aged about 46, who died suddenly with copious hemorrhage from the mouth. The necropsy showed a fusiform aneurysm of the arch of the aorta, which was atheromatous and calcified. Admitting a finger-tip, there was an ulceration through into the right bronchus. There had been no symptoms pointing to aneurysm, and the man had followed his work as a plumber.

Dr. Theodore Fisher showed several mounted pathological specimens recently added to the Bristol Royal Infirmary Museum. A few, such as the cavity of a subphrenic abscess, hernia of the bladder, rupture of aneurysm into the right ventricle, and cystic glioma of the brain, were shown for their intrinsic interest. Others, such as hemorrhage into a phthisical cavity, hemorrhage into the brain, and a diffuse aneurysm of the axilla, were shown to illustrate the way in which specimens can be mounted so as to retain their colour.

Dr. W. H. C. Newnham reported three cases of vaginal hysterectomy for cancer (see p. 24).—Dr. W. C. Swayne said that the important points appear to be the questions of diagnosis and fitness for operation. The question of the relative merits of partial or total extirpation requires time for its decision. On *à priori* grounds the radical operation is superior to partial removal, in that it is a more correct surgical procedure. As regards the diagnosis, in any case of hemorrhage after the menopause, and in all cases of menorrhagia and metrorrhagia, careful investigation for the purpose of excluding cancer is necessary. Fœtid discharge resembling that of cancer may be caused by senile endometritis, but a careful curetting will clear up any doubt that may appear to exist. Pain is a doubtful sign, and many cases far too advanced for removal are met with in which pain has not been marked. How far the question of infiltration should contraindicate removal is an important point. The opinion of those who have operated on many cases would be valuable as to how far fixation and apparent infiltration may be caused by inflammatory deposit due to septic absorption. —Dr. J. G. Swayne agreed with Dr. Newnham that cancer in such young subjects was doubtless due to rapid child-bearing in girls in their teens, owing to its inducing premature old age and exhaustion. He thought that prophylactic treatment at an early period was the most effectual remedy, *i.e.* to prohibit marriage before twenty, especially in girls of delicate constitution.—Dr. Michell Clarke, with regard to the early age at which carcinoma appeared in Dr. Newnham's patients, referred to the views of Ribbert and others, who trace the origin of cancerous growths to separation of epithelial cells from their normal connections, the separated cells either perishing, remaining dormant, or taking on growth according to the variations in the surrounding conditions, and suggested that rapidly repeated pregnancies would afford the necessary conditions for the separation and abnormal growth of epithelial cells.—Mr. Greig Smith, referring to Dr. Michell Clarke's remarks on the origin of cancer, said that although the resting bud

theory would account for the hypertrophic element in cancerous growths, it would not account for the cachexia. He dwelt upon the importance of early diagnosis, particularly in cases originally in the body of the uterus. The hypertrophic adenoid material found in certain cases not cancerous might also be found in cases which have cancer at the bottom, and there may be infiltrating new growth in the uterine body and little or no discoverable lesion in the mucosa. As to the question of total or partial removal, he was on the whole inclining to the complete operation; but he was not prepared definitely to recommend it for all cases. In the most skilled hands a mortality of from five to eight per cent. was all that was incurred, and it was doubtful if the lower mortality of the partial operation would counterbalance this.—Mr. C. A. MORTON referred to a case in which he performed the operation last summer. The woman was excessively anæmic from uterine hemorrhage, and he gave ʒiss. of calcium chloride during the twenty-four hours preceding the operation. Although the operation was a very difficult one, owing to extension of the disease to the vaginal wall around the cervix and to marked elongation of the body of the uterus, there was no great amount of bleeding, and the patient made a satisfactory recovery. Mr. Morton had also employed this method of trying to diminish the tendency to hemorrhage during an operation in other very anæmic patients, and with apparent success. He did not wish to discuss the question of the relative merits of complete hysterectomy or supra-vaginal amputation, but he would like to refer to the difficulty in deciding, during the performance of the operation, whether the disease was limited to the cervix or had extended into the body of the uterus. If, after separation of the bladder and ligation of the base of the broad ligaments, the cervix was grasped between the thumb and finger, it was impossible to define the limits of the growth, as the uterine tissue was as hard or harder than the cancerous growth. The best plan, he considered, was to perform a supra-vaginal amputation of the cervix—and he was himself in favour of this operation rather than complete hysterectomy in suitable cases, —and then, if on examination of the removed cervix the disease was found infiltrating up to the line of section or very near it, to proceed to complete removal of the uterus. This was the plan which he intended to adopt in a case of carcinoma of the cervix upon which he was just going to operate.—Mr. J. EWENS called attention to a paper read by Dr. Macpherson Lawrie, of Weymouth, at the Carlisle meeting of the British Medical Association, reporting six consecutive cases of successful vaginal hysterectomy.—The PRESIDENT drew attention to the great importance of attention to all irregularities of menstrual function in women who have not passed the climacteric, and to the occurrence of vaginal bleeding in those who have passed the climacteric He advocated the total removal of the uterus rather than partial.—Dr. NEWNHAM, in reply, said that having been present at the meeting of the British Gynæcological Society when Jessett read his paper on seventy-five cases of vaginal hysterectomy for malignant disease, he was much struck by the fact that all the speakers were agreed that there was no doubt about the justifiability of the operation, and the ease and success with which it could be done; but each one asked for the early symptoms of malignant disease which could lead to a diagnosis. The ordinary signs, such as pain, fœtid discharge, and hemorrhage, generally only appear when the disease is too far advanced for operation. He then suggested that the small hemorrhage occurring after coitus is often a sign, which should always be viewed with great suspicion, and imperatively demands a vaginal examination.

Dr. B. M. H. Rogers described the case of a girl, aged 12, who he thought suffered from mediastinitis. She had been quite well till the summer of 1896, when œdema of the legs and ascites had been noticed. When she came under his care at the Children's Hospital the œdema extended as high as the clavicles, and there was considerable ascites and the veins of the neck were distended. There was no displacement of the heart, no murmur to be detected except a *bruit de galop*, no physical signs of any disease of the chest or presence of a new growth in the mediastinum, and the urine was normal. During her stay in the hospital the symptoms slightly improved, and after four months she went to Weston. On her return her condition was not so satisfactory. The heart was displaced upwards and to the left, the œdema and ascites had increased, and she was much weaker. Dr. Rogers discussed the diagnosis between tubercular disease of the glands, lymphadenoma, acute inflammation, and new growths, and concluded that the case was one of chronic inflammation of the posterior mediastinum.—Dr. T. Fisher considered that those writers who believe mediastinitis to be capable of producing symptoms overlook one or two anatomical facts. The inferior vena cava has too short a course in the chest to be pressed upon by contraction of fibrous tissue, and it is the superior vena cava only that is worth considering in connection with this point. The superior vena cava will, however, bear great compression, without signs of venous obstruction becoming manifest. The great cause, and it might be said the only cause, of such obstruction is produced by growth, and that does so by invading the interior of the vessel and obliterating its lumen. Mediastinitis might lead to venous obstruction by producing thrombosis, but this is exceedingly rare. Dr. Fisher acknowledged thickening of the tissues of the mediastinum to be common in cases of adherent pericardium, but distension of the veins, when present, is due to the cardiac failure.

February 10th, 1897.

Dr. A. E. Aust Lawrence, President, in the Chair.

Dr. F. H. Edgeworth showed a patient, aged 52 years, suffering probably from an intrathoracic tumour. He had been losing weight, had cough and expectoration, for eight months. There was no displacement of the intrathoracic organs, nor evidence of any pressure on intrathoracic veins, arteries or nerves. The respiratory murmur was everywhere deficient. There was some deficiency of resonance over the manubrium sterni. The glands in the anterior triangle of the neck and axilla were hard and enlarged on both sides, though more marked on the right side. The glands in the groins were not enlarged. The interest of the case lay in the slightness of the intrathoracic signs, though the glands in the neck and axillæ were considerably enlarged.—Dr. J. O. Symes said that in view of the fact that glands at such distant points as the groin and over mastoid process were affected, it was unlikely that their enlargement was due to secondary infection from a growth in the thorax.—Dr. J. Broom suggested that skiagraphy would probably remove some obscure parts of the present diagnosis.

Dr. T. Fisher showed a further collection of pathological specimens from the Infirmary museum. As before, the series contained some specimens, such as tuberculosis of the lung, broncho-pneumonia, and fibroid disease of the heart, mounted in order to preserve their colour; and others of more special interest, such as ulcerative endocarditis, showing healing of the valves, primary growth of the base of the lung,

and softening of the brain following thrombosis of the superior longitudinal sinus.

Mr. C. W. J. BRASHER showed a modification of Hale White's well-known tongue-depressor for infectious cases, both instruments consisting essentially of a Turck's tongue-depressor carrying a glazed "window" by means of an attached arm; Dr. Hale White's instrument having the arm fixed to the depressor by two small screws, requiring a screwdriver to detach them. The modified instrument has the arm attached by means of a clamp, allowing of ready disconnection of the arm for disinfection, &c. The attachment of the "window" to the arm in the modified instrument has a winged nut in addition to a thumb-screw, and by this means a double movement of the "window" is permitted. Any obscuration by the patient's breath may be prevented by warming the glass before use.

Dr. MICHELL CLARKE related the case of a man who, after inhaling sewer gas, suffered from fœtor of breath, paroxysmal cough with abundant very fœtid expectoration, heavy sweats, hectic fever and emaciation. Two months from the beginning of the illness the physical signs pointed to the presence of an abscess in the lower lobe of the right lung, and Mr. C. A. MORTON by an operation which he described reached a small abscess cavity in the midst of consolidated lung in this situation. The abscess was drained and the man was doing well, when he had a series of epileptic fits—from which he had suffered for some years—and died in coma.—Dr. C. ELLIOTT said that all such cases when hectic symptoms set in invariably died if treated only by medicine. The rule he would lay down was this, that as soon as there was unmistakable fœtor there should be no delay, but surgical assistance should be sought for, even though the abscess cavity might be small, as necrotic changes were taking place rapidly. Hitherto most surgeons had been unwilling to operate in these cases.—Mr. J. EWENS mentioned a case in which he himself had aspirated an abscess of the lung in a child in the Children's Hospital, with good results, the diagnosis of abscess of lung being materially aided by the fœtid nature of the expectoration.—Dr. G. PARKER mentioned the early symptoms of the case while it was under his care, and the difficulty of diagnosis before the fœtor became noticeable.—Dr. T. FISHER referred to a case in the Bristol General Hospital which he had seen while taking Dr. Michell Clarke's work, in which the diagnosis of the abscess cavity was easy and the situation favourable for operation; but the condition was thought too acute, with too much accompanying septic pneumonia, for surgical interference, and in a few days perforation occurred into the pleural cavity.—Dr. A. J. HARRISON mentioned the case of an oldish man admitted under his care in the Bristol General Hospital a good many years ago, before the discovery of Koch's bacillus, with symptoms of breakdown of left apex of lung. Signs local; breath fœtid; probable cause, apical pneumonia previously. Mr. Penny, the house surgeon, tapped the apex and drained with tube. The man made a perfect recovery.—Dr. MARKHAM SKERRITT spoke of the difficulty which had repeatedly been met with in accurately localising by physical signs the position of a cavity in the lung, and referred to a case recorded by Sidney Coupland in which all the evidence of a large cavity existed, but none could be reached by operation; *post-mortem* examination proved that a congeries of dilated bronchial tubes had given rise to the physical signs characteristic of a single cavity.—Mr. MORTON referred to a case very similar to Dr. Coupland's which he had published in the *Lancet*, 1894.

Dr. BARCLAY J. BARON read a paper on "The Symptoms and Treatment of Chronic Suppuration of the Maxillary Antrum," and Mr. W. H. HARSANT commented on the paper (see pp. 13—20).

Dr. G. PARKER read a paper on the diagnosis of certain affections allied to rheumatism. He referred to the difficulty of distinguishing the rheumatic group of affections from others in the absence of any exact criterion of rheumatism, and argued that in certain diseases we have definite symptoms and sequelæ sufficient to differentiate them from rheumatism, and to enable us to place under these diseases many ill-defined cases which are often regarded as rheumatism. Such diseases are Quincke's œdema, Osler-Henoch's purpura (which often has no skin affections at all), rheumatoid arthritis, the arthritis of gonorrhœa, scarlatina, diphtheria, and other exanthemata, purpura hemorrhagica, hæmophilia, malignant endocarditis, &c. Many of these are absolutely distinct from rheumatism, and the evidence for the rheumatic nature of even erythema nodosum is most defective. Cases were given in illustration of these propositions, showing nervous, renal and pyrexial symptoms unknown in rheumatism. The danger of relying on a history of previous rheumatic attacks which might refer to very different diseases, or on the evidence of endocarditis produced by various causes, was also discussed. — Dr. A. J. HARRISON emphatically objected to erythema nodosum being classed with rheumatism. Erythema nodosum may occur in rheumatic subjects, but there is much about the complaint which at present is very obscure. Thus it is *rare* for a person to have it twice, although rheumatism is very recurrent. One attack of erythema nodosum seems to exhaust its incidence, or when it does recur a person may have it two or three times, just as a very few people may have small-pox, measles, or scarlet fever several times, but single attacks are by all means the rule. We have a good deal to learn about this form of erythema.

J. PAUL BUSH, *Hon. Sec.*

Devon and Exeter Medico-Chirurgical Society.

Annual Meeting, January 15th, 1897.

Mr. J. D. HARRIS, President, in the Chair.

The Council's Report and the Treasurer's Report having been received, the following officers for the ensuing year were elected:— President; Dr. J. Somer: Vice-President; Dr. A. G. Blomfield: Treasurer; Mr. J. D. Harris: Council; Dr. R. Thomas, Mr. A. C. Roper, Dr. H. Davy, Dr. F. Morgan, Dr. J. K. Lewis, and Dr. C. N. Lovely: Auditors; Dr. W. Budd and Dr. J. Mackeith: Hon. Secretary; Dr. R. V. Solly.

Dr. RANSOM PICKARD read a paper on "Syphilitic Joint-disease." He also reported a case of deafness due to congenital syphilis where, after *post-nasal* adenoids had been removed without benefiting the hearing, interstitial keratitis and syphilitic joint-disease developed, and then almost complete recovery of hearing was obtained under mercurial treatment.

Dr. MARK FARRANT, jun., showed a case of deafness due to congenital syphilis, with interstitial keratitis, in which no improvement took place under mercurial inunction.

R. V. SOLLY, *Hon. Sec.*

Plymouth Medical Society.

October 3rd, 1896.

Dr. C. A. HINGSTON, President, in the Chair.

Dr. J. WEBBER read notes of a case of diphtheria and shewed a specimen of membrane.

Mr. R. H. LUCY showed specimens of sarcoma of lower jaw, calcareous bronchial glands, and ingrowing toe-nail.

Mr. C. E. RUSSEL RENDLE handed round a card specimen of a middle meningeal artery ruptured in two places.

Mr. A. RENDLE showed a young woman whose apex-beat was to be felt on the right side.

October 21st, 1896.

Dr. C. A. HINGSTON, President, in the Chair.

Mr. LUCY read a paper on the "Surgical Treatment of Hemorrhoids."

November 7th, 1896.

Dr. C. A. HINGSTON, President, in the Chair.

Mr. W. L. WOOLLCOMBE showed: (1) A woman from whose neck he had removed a sarcomatous mass, including ¾ of clavicle, large portion of internal jugular and subclavian veins, and an inch of the thoracic duct. After three months the patient did not appear much deteriorated. (2) A man with left popliteal aneurysm, apparently fusiform. (3) A calculus, 1¾-in. long and 186 grs. in weight, removed *per urethram* from a child, aged 3½ years, with no permanent damage to urethra.

Mr. C. E. RUSSEL RENDLE demonstrated a case of capsular cataract with extreme myopia and choroidal atrophy.

Mr. G. F. ALDOUS exhibited a skiagram of compound fracture of radius and ulna, and handed round portions of former bone removed for cure of resulting deformity.

Mr. W. L. WOOLLCOMBE showed a specimen of appendix vermiformis removed during herniotomy for obstructed inguinal hernia, in whose sac was found the fundus of cæcum, part of a sacculus of the bladder, and much condensed fat.

Mr. R. H. LUCY showed a small case of instruments for intra-venous injection of saline solution.

Dr. PETHYBRIDGE exhibited a piece of catheter removed from membranous portion of urethra by Dr. Webber.

Annual Meeting, November 18th, 1896.

Dr. C. A. HINGSTON, President, in the Chair.

Mr. J. H. S. MAY was elected President for the ensuing year, and Mr. W. L. Woollcombe, Hon. Sec. The other office-bearers remain the same.

The members dined together at the Duke of Cornwall Hotel.

November 28th, 1896.

Mr. G. JACKSON in the Chair.

Mr. RIDER showed a child with congenital morbus cordis and an inversion of the skin over the sacro-coccygeal junction.

Mr. WOOLLCOMBE showed: (1) A woman with secondary syphilis and nodes on cranium and right clavicle. (2) A child, aged 3½, with congenital loss of voice, due to an arrest of development of the larynx. (3) A child, aged 15 months, with various developmental defects, including an absence of lower epiphysis of right tibia but normal growth of fibula, so that upper end of fibula articulated with external condyle of femur and lower end projected beyond foot, causing extreme inversion.

Mr. RIDER read notes of a case of rapidly fatal peritonitis, supposed to be the result of ruptured appendix, with specimen.

Dr. J. WEBBER showed a microscopic slide of rodent ulcer.

Mr. C. H. WHITEFORD read notes of a case of apical pneumonia.

December 16th, 1896.

Mr. J. H. S. MAY, President, in the Chair.

Dr. W. C. WILSON read a paper on "The Treatment of Insomnia."

January 9th, 1897.

Mr. J. H. S. MAY, President, in the Chair.

Dr. E. LAURENCE FOX showed a man, aged 20, with functional spasm in one arm and hand.

Mr. C. E. RUSSEL RENDLE showed a case of fracture through epiphysis of metacarpal of thumb in a lad aged 19, illustrated by a skiagram of both hands.

Mr. C. H. WHITEFORD read (1) notes of a case of misplaced testis in a child aged 2, the organ lying in the perineum; (2) notes of a case of deafness resulting from long-standing otorrhœa, hearing being reduced to a watch at three inches. Under $CHCl_3$ both membranes were found to be destroyed, and a large crop of adenoids was removed from the naso-pharynx as a preventive of future complications. This had the effect of completely restoring the hearing.

Dr. J. WEBBER showed a slide of blood-clot from a case of extra-uterine gestation, operated on by Mr. W. L. Woollcombe in tenth week; the specimen showed well the presence of chorionic villi.

January 27th, 1897.

Dr. E. LAURENCE FOX in the Chair.

Dr. J. WEBBER read a paper on "The Present State of Serum-therapeutics," the diseases taken to illustrate the paper being diphtheria, tetanus, inoperable malignant disease, and inflammations caused by streptococcus pyogenes.

Card Specimen.—Mr. C. H. Whiteford: The bladder and right kidney and the shrivelled remains of left ureter, which opened into left seminal vesicle and was filled with a thin, opaque, light-brown fluid and a nodule of hardened fat which was all that represented the left kidney. The bladder was much thickened and sacculated, and the right kidney was in the state known as "surgical kidney." The man, aged 68, died suddenly of uræmia.

W. L. WOOLLCOMBE, *Hon. Sec.*

The Library of the Bristol Medico-Chirurgical Society.

The following donations have been received since the publication of the List in December:

February 27th, 1897.

J. Michell Clarke, M.D. (1) ... ... 2 volumes.
Carey Coombs, M.D. (2) ... ... 1 volume.
George M. Gould, M.D. (3) ... ... 43 volumes.
L. M. Griffiths (4) ... ... 2 ,,
J. Greig Smith (5) ... ... 76 ,,
R. Shingleton Smith, M.D. (6) ... ... 3 ,,
The Surgeon-General, United States Army (7)... 1 volume.
J. Wright and Co. (8) ... ... 1 ,,

Unbound periodicals have been received from Dr. George M. Gould. One Framed Picture has been presented by Mr. L. M. Griffiths, and one by Mr. Arthur W. Prichard.

TWENTY-THIRD LIST OF BOOKS.

The titles of books mentioned in previous lists are not repeated.

The figures in brackets refer to the names of the donors, and show by whom the volumes were presented. The books to which no such figures are attached have either been bought from the Library Fund or received through the *Journal*.

Allbutt and W. S. Playfair, T. C. [Eds.] *A System of Gynæcology* 1896
Barrett, A. W. ... *Dental Surgery* ... ... 3rd Ed. 1897
Bramwell, B. ... *Intracranial Tumours* 1888
Brindel, — ... ... *Resultats de l'Examen histologique de 64 Végétations adénoïdes* 1896
Brown, A. M. ... *The Animal Alkaloids* ... ... 2nd Ed. 1889
Bryant, T. ... ... *On Tension, Inflammation of Bone, and Head Injuries* 1888
Buck, A. H. ... *Medical Dictionary* 1897
Butler-Smythe, A. C. *A First Series of Fifty-four consecutive Ovariotomies* ... 1897
Campbell, F. ... *The Theory of National and International Bibliography* 1896
Catalogue (Index) of the Library of the Surgeon-General's Office, United States Army ... ... 2nd Series, Vol. I. (7) 1896
Cautley, E. ... ... *The Feeding of Infants* 1897
Chaplin, Sir A. Clark, W. J. Hadley and A. *Fibroid Diseases of the Lung* 1894
Cheyne, W. W. ... *The Treatment of Wounds, Ulcers, and Abscesses.* 2nd Ed. 1897
Clark, W. J. Hadley and A. Chaplin, Sir A. *Fibroid Diseases of the Lung* 1894
Coombs, C. ... ... *Galvanism in the Treatment of Neuritis, &c.* ... (2) 1896
Doland, W. A. N. *A Manual of Obstetrics* 1896

Ehlers, E. ... ... *Aetiologische Studien über Lepra* 1896
Fernie, W. T. ... *Herbal Simples* ... ... 2nd Ed. 1897
Gould and W. L. Pyle, G. M. *Anomalies and Curiosities of Medicine* ... 1897
Gowers, W. R. ... *Clinical Lectures on Nervous Diseases* 1895
Grawitz, E.... ... *Klinische Pathologie des Blutes* 1896
Gull, [Sir] W. W. *A Collection of Published Writings — Memoir and Addresses.* (Ed. by T. D. Acland) 1896
Hadley and A. Chaplin, Sir A. Clark, W. J. *Fibroid Diseases of the Lung* 1894
Hare, H. A.... ... *Mediastinal Disease*... 1889
Herschell, G. ... *Cycling as a Cause of Heart Disease* 1896
Jacobson, W. H. A. *The Operations of Surgery* ... ... 3rd Ed. 1897
Jaruntowsky, A. von *Sanatoria for Consumptives.* (Tr. by E. C. Beale) ... [N.D.]
Kinsey-Morgan, A. *The Climate of Bournemouth in relation to Disease, especially Phthisis*... 1897
Kirstein, A.... ... *Autoscopy of the Larynx and the Trachea.* (Tr. by M. Thorner) 1897
Macnaughton-Jones, H. *Diseases of Women*... ... ... 7th Ed. 1897
Maylard, A. E. ... *The Surgery of the Alimentary Canal* 1896
Moure, E. J. ... *Empyème du Sinus maxillaire chez les Enfants. Des Déviations et Éperons de la Cloison du Nez chez les jeunes Enfants* 1896
Murray, W. ... *Rough Notes on Remedies* ... ... 2nd Ed. 1897
Murrell, W. ... *What to do in cases of Poisoning* ... ... 8th Ed. 1897
Napier, A. D. L.... *The Menopause and its Disorders* 1897
Naunyn, B. ... ... *A Treatise on Cholelithiasis.* (Tr. by A. E. Garrod) ... 1896
Nicolas, Sir H. ... *The Chronology of History* ... ... (4) 1833
Playfair, T. C. Allbutt and W. S. [Eds.] *A System of Gynæcology* 1896
Poten, W. ... ... *Die chirurgische Asepsis der Hände* 1897
Pye, W. ... ... *Elementary Bandaging and Surgical Dressing.* 7th Ed. (Revised by G. B. Smith) 1896
Pyle, G. M. Gould and W. L. *Anomalies and Curiosities of Medicine* ... 1897
Ross, F. W. F. ... *Intestinal Intoxication in Infants* 1897
Snell, E. H.... ... *Compressed Air Illness* 1896
Stoney, Emily A. M. *Practical Points in Nursing* ... ... [N.D.]
Thudichum, J. L. W. *The Progress of Medical Chemistry* 1896
Woakes, E. ... ... *On Deafness, Giddiness, and Noises in the Head.* 4th Ed. 1896
Yearsley, M. ... *Injuries and Diseases of the Ear* 1897
Ziegler, E. ... ... *Special Pathological Anatomy.* 3rd Ed. Sections I.--VIII. (Tr. and Ed. by D. Mac Alister and H. W. Cattell) 1896

TRANSACTIONS, REPORTS, JOURNALS, &c

American Gynæcological and Obstetrical Journal, The ... ... Vol. IX. 1896
American Gynecological Society, Transactions of the ... Vol. XXI. 1896
American Journal of the Medical Sciences, The ... ... Vol. CXII. 1896
American Ophthalmological Society, Transactions of the Vol. VII., Part III. 1897
American Public Health Association, Reports and Papers presented at the Meetings of the ... ... (3) Vols. I.—XVII. 1875-92

American Surgical Association, Transactions of the (5) Vols. VII., VIII. 1889–90
Annals of Surgery ... ... Vols. I.—V., 1885–87; VIII., 1888; XV. 1892
Archives de Neurologie ... ...2e Sér., Tome II. 1896
Asclepiad, The ... ... Vol. XI. 1895
Association of American Physicians, Transactions of the ... Vol. XI. 1896
Australasian Medical Gazette, The ... ... (5) Vols. IV.—VI. 1885–87
Australian Medical Journal, The ... ... (5) N.S., Vols. VI.—IX. 1884–87
Birmingham Medical Review, The ... Vols. (5) XXVI., 1889; XL. 1896
Boston Medical and Surgical Journal, The ... ... Vol. CXXXV. 1896
Bristol and Clifton Directory ... ... (4) 1890; (8) 1897
British Journal of Dermatology, The ... ... Vol. VIII. 1896
British Medical Journal, The ... ... Vol. II. for 1896
British Orthopædic Transactions... ... ... Vol. I. 1896
Canada Medical and Surgical Journal ... (5) Vols. XIII.—XV. 1885–87
Centralblatt für Chirurgie 1896
Centralblatt für Gynäkologie... 1896
Centralblatt für innere Medicin 1896
Cincinnati Lancet-Clinic, The Vols. (5) LIII.—LXII., 1885-89; LXXVI. 1896
College of Physicians of Philadelphia, Transactions of the (3) 3rd Ser., Vols. XI., XII. 1889–90
Dublin Journal of Medical Science, The Vols. (6) LXXXI., LXXXII., 1886; (5) LXXXV.—LXXXVII., 1888–89; CXII. 1896
Edinburgh Medical Journal ... ... Vols. (5) XXXIV., Part 1., 1888; (1) XXXV., 1890; XLII. 1896
France médicale, La 1896
Gazetta Medica Lombarda 1896
Gazette des Hopitaux 1896
Gazette des Hopitaux de Toulouse 1896
Gazette hebdomadaire des Sciences médicales de Bordeaux Tome XVII. 1896
Glasgow Medical Journal, The ... ... (5) Vol. XXXIII. 1890
Hazell's Annual 1897
Hospitals—
Guy's Hospital Reports ... ... Vol. LII. 1896
Iowa State Medical Society, Transactions of the ... ... Vol. XIV. 1896
Journal of Cutaneous and Genito-Urinary Diseases ... Vol. XIV. [1896]
Journal of Laryngology, Rhinology, and Otology, The ... ... Vol. XI. 1896
Journal of Nervous and Mental Disease, The ... ... (3) Vol. III. 1876
Journal of the American Medical Association, The Vols. (5) IV.—XII., 1885–89; XXVII. 1896
Laboratory Reports, Royal College of Physicians, Edinburgh (5) Vol. I. 1889
Lancet, The ... ... Vol. II. for 1896
Library, The ... ... Vol. VIII. 1896
Mathews' Medical Quarterly... ... ... Vol. III. 1896
Medical Age, The ... ... Vols. (5) V., VI., 1887–88; XIV. 1896
Medical and Surgical Reporter, The ... Vols. (3) XXXIV.—XXXVI., 1876–77; (5) LI.—LV., 1884–86, LVII.—LXI., 1887–89; LXXV. 1896
Medical Annual, The 1897
Medical Directory, The 1897
Medical Magazine, The ... ... (6) Vol. V. 1896

Medical News, The ... ... Vol. LXIX. 1896
Medical Press and Circular, The... ... ... [Vol. CXIII.] 1896
Medical Record... ... ... Vol. L. 1896
Medical Society's Transactions, The ... ... Vol. XIX. 1896
Medical Standard, The ... ... (5) Vol. III. 1888
Medicinische Bibliographie ... ... (5) 1885-87
Monthly Abstract of Medical Science, The ... (3) Vols. III., IV. 1876-77
Münchener medicinische Wochenschrift 1896
New York Medical Journal, The Vols. (3) XXIII.—XXV., 1876-77; LXIV. 1896
New Zealand Medical Journal, The ... ... Vol. IX. 1896
Nord médical, Le ... . Tome II. 1896
Nordiska Kongressen för Invärtes Medicin, Förhandlingar vid Första 1896
Odontological Society of Great Britain, Transactions of the. N.S, Vol. XXVIII. 1896
Ophthalmological Transactions ... ... Vol. XVI. 1896
Pediatrics ... ... Vol. II. 1896
Pennsylvania, Transactions of the Medical Society of (3) Vols. XIII., Part II.—XXV. 1881-94
Philadelphia Medical Times... ... ...(3) Vols. VIII., IX. 1878-79
Practitioner, The ... ... Vol. LVII. 1896
Progrès médical, Le ... ... 3e Sér., Tome IV. 1896
Retrospect of Medicine, Braithwaite's ... ... Vol. CXIV. 1897
Revue hebdomadaire de Laryngologie, d'Otologie, et de Rhinologie Tome XVI. 1896
Saint Louis Medical and Surgical Journal, The (5) Vols. XLVI.—XLVIII., 1884-85, LI.—LVI. 1886-89
Sperimentale, Lo ... ... (5) Tom. LI.—LXIII. 1883-89
Union médicale, L' ... ...4e Sér., Tome II. 1896
West London Medical Journal ... ... Vol. I. 1896
Whitaker's Almanack 1897
Year-Book of Treatment, The 1897

Local Medical Notes.

BRISTOL.

During the past quarter of the year 1897 two events closely connected with the medical profession have taken place. The first and the one which will leave the most permanent mark is the decision to raise money in Commemoration of Her Majesty's Diamond Jubilee to found and endow a Convalescent Home in or near the city. This decision was come to at a meeting called by the Mayor; but there can be no doubt that the minds of the persons present were influenced by the statement made by the Prince of Wales that the Queen hoped that

whatever form the Commemoration took the needs of the sick poor would find some place and by the resolution in favour of a Convalescent Home passed by a joint-committee of the Infirmary and Hospital.

The second event referred to was the reading—or it might be almost called a recitation—of Dickens's "Christmas Carol" by Mr. Bancroft. The only matter of regret is that the audience was not larger, but from the view of those present that was their loss. We need not criticise Mr. Bancroft's reading. He is such a well-known actor that high expectations were not unnaturally formed of the entertainment, and the audience by their applause signified that they were not only not disappointed, but that they heartily appreciated Mr. Bancroft's reading and rendering of the story of Scrooge, and his magnanimity in coming to Bristol to give his services on behalf of the Royal Infirmary. The few words spoken by the Duke of Beaufort, who occupied the chair, conveyed in a graceful manner the thanks of the audience to the reader.

UNIVERSITY COLLEGE.—Prof. Markham Skerritt has been nominated by the Royal College of Physicians of London, Bradshaw Lecturer for 1897.

The following students have recently passed examinations:

University of London.—*Intermediate Examination. Excluding Physiology*—(Second Division), D. T. Price, P. G. Stock; *Physiology only*—(First Division), T. Aubrey. *Final Examination for M.D. Degree. Medicine*—G. H. Barker, B.Sc. *Final Examination for B.S. Degree*—(Second Division), G. B. Price, M.B. Lond., M.R.C.S. Eng., L.R.C.P. Lond.

Examining Board in England by the Royal Colleges of Physicians and Surgeons.—*Five Years' Curriculum. First Examination. Part I. Chemistry and Physics*—J. C. Clayton; *Part II. Practical Pharmacy*—G. H. Irvine, J. C. Wadmore. *Second Examination. Anatomy and Physiology*—W. N. Blatchford. *Final Examination. Medicine, Surgery, and Midwifery*—A. S. Cobbledick, R. E. W. Jennings, H. F. Parsons, H. J. Thomas; *Medicine*—C. R. Dykes*; *Surgery*—W. M. Bergin, J. J. S. Lucas, H. L. W. Norrington*; *Midwifery*—J. E. Long, R. J. Rogers.

Society of Apothecaries of London.—*Pass List.* February, 1897. *Midwifery*—A. H. Grace.*

Army Medical Staff.—H. L. W. Norrington.

At Netley. in January Mr. G. E. F. Stammers's combined marks secured him the first place in the examination and gained him the Herbert Prize of £20 for general proficiency, the Montefiore Medal and Prize of 20 guineas for surgery, the Parkes Memorial Medal for hygiene, and the Pathology Prize presented by the Director-General, A.M.D.

GENERAL HOSPITAL.—The following appointments have been made recently: Consulting Physician-Accoucheur, A. E. Aust Lawrence, M.D., C.M. Aberd.; Physician-Accoucheur, W. H. C. Newnham, M.A., M.B. Cantab.; Assistant Physician-Accoucheur, D. C. Rayner, F.R.C S. Eng., L.R.C.P. Lond.

HOSPITAL FOR SICK CHILDREN AND WOMEN.—J. O. Symes, M.D. Lond., has been appointed Anæsthetist.

* Completes Examination.

SCRAPS

PICKED UP BY THE ASSISTANT-EDITOR.

Clinical Records (18).—The minister of the parish used a galvanic battery in the case of a paralysed crofter. The following day a neighbour asked the patient's wife how her husband was getting on. "I 'm houping," she replied, "he 'll sune be better. The minister 's been giein' him a shock wi' the Calvinistic battery, an' it did him a lot o' guid!"

Rhinology.—Under the title of "A Humorous Séance" the *Scalpel* gives the account of a meeting of the Medical Society of the Twenty-ninth Arrondissement, Paris. Amongst the communications presented was "An essay by Dr. Ducornet, the eminent rhinologist, on 'The difference of arterial pression in each of the two nasal fossæ, right and left, with operatory deductions.' In his conclusions the author insists, with much reason, on the facts already partially recognized—that rhinology is a field far too vast for the activity of a single specialist; that it is, therefore, necessary, to divide its specialization; and that in future the illuminants of this branch of medical science should be known as *right* rhinologists and *left* rhinologists, the *septum nasi* alone being common ground for the two, though they should, as far as possible, endeavour to confine their interventions each to his own surface of that formation, even in cases where it may be considerably deflected to one or other side."—*The Journal of Laryngology, Rhinology, and Otology.*

Before the New Hampshire Medical Society Dr. O. B. Douglass, a nose and throat specialist of New York, said he had a profound respect for the all-round general practitioner, and that specialists being so from necessity were consequently eccentric, one-sided, instead of being well-balanced. He urged the importance of securing the patient's confidence, and, adding that specialists often get it in a degree to which they are not always entitled, he quoted the following lines:

> "I know his nose. He knows I know his nose.
> He said he knew I knew his nose.
> And, as he said he knew I knew his nose,
> Of course I know he knows I know his nose."

Obstetrics, Home and Foreign (3).—Labour seems to be an equally easy process among all people who live in a perfectly natural state. This may be accounted for by the active life which women lead among these people; all the work is done by them, so that the frame and the muscular system are developed, and the fœtus, by constant motion, may be said to be shaken into that position in which it best adapts itself to the maternal parts, into the long diameter, and once in such a position it is held there by the firm walls of the maternal abdomen, and the birth becomes easy. Moreover, they do not marry out of their own tribe or race, and the head of the child is adapted to the pelvis of the mother through which it is to pass.

There are certain differences and an increase of the difficulties of labour as civilisation is neared. In our centres of luxury people intermarry regardless of difference in race or frame of body, and the consequence is the frequent disproportion between the head of the child and the pelvis of the mother. In addition, the system suffers from the abuses of civilisation, its dissipations, and the follies of fashion. On account of the idle life led, and the relaxed condition of the uterus and abdominal walls, there is a greater tendency to malpositions; additional difficulties are presented by the weakened organisation, and the languid neurasthenic condition of the subjects in civilised communities. We do, however, sometimes find in our cities, more frequently in our rural districts, strong hardy women, who lead more active lives, and who pass through labour with an ease and rapidity much more like that dis-

played by their savage sisters.—Engelmann, *Labor among Primitive Peoples*, 1882, pp. 122-4.

I quote these statements without endorsing them, as much exception could be taken to some of them.

Medical Philology (XXI.).—From that undiscovered work *Mirivalensis in campo florum* the compiler of the *Promptorium* took "COOSTE, herbe. *Costus cujus radix dicitur costum.*" Pynson's 1499 edition read "coosta" for "costus." Mr. Way's note on the word is:

> Of the various virtues of coste, which is the root of an Indian plant, the early writers on drugs give long details, and Parkinson has represented it at p. 1582 of his Herbal. In Mr. Diamond's curious MS. on the qualities of plants and spices, two kinds of coste are described, both brought from India: "þe oone ys heuy and rede, þe toþer is li3t and no3t bittere, and somedel white in colour;" and it is recommended to make an ointment of coste ground small with honey, excellent to cleanse the face of the freckles, and "a suffreyn remedie for sciatica, and to þe membris þat ben a-stonyed."

The *New English Dictionary* defines Cost as "the thick aromatic root of the composite plant *Auklandia Costus*, now *Aplotaxis Lappa*, a native of Cashmere, imported as a spice by the Greeks and Romans. Thence transferred in the Middle Ages to another odoriferous plant," still known as "Costmary," which the Dictionary says is "an aromatic perennial plant, *Chrysanthemum (Pyrethrum, Tanacetum) Balsamita*, otherwise *Balsamita vulgaris*, N.O. *Compositæ*, a native of the orient region."

The signification of the latter half of Costmary has been variously interpreted. The *Century Dictionary* says that Palsgrave (1530) translates "Cost mary" by the French *Coste marine*, and this was probably the English view of its etymology. It was known that Rosemary is *Ros marinus*—"Sea-dew"—from some supposed resemblance of its blossoms to sea-spray, or because that was believed to favour its growth. A popular explanation associated Costmary with the Virgin Mary or St. Mary Magdalene. Lyte in his 1578 translation of Dodoens says it is called by some *Herba diuæ Mariæ*, and Florio (1598) gives "the herb Coaste or herb Marie" as an English equivalent of the Italian "costo." The New Sydenham Society's *Lexicon* perversely connects it with "costus amarus," an explanation described as "superfluous" by the *New English Dictionary*, which is inclined to favour the association with Mary as the original form because "the *Grant Herbier* of 15th c. has '*Herba Sancte Marie*, q. alio nomine dicitur *costus dulcem*,'" and also because several German names of the plant corroborate it.

The fourth edition (1748) of the translated Pomet's *History of Drugs*, a book which is in the Bristol Medical Library, describes the Arabian, the sweet, and the bitter Costus, and figures the Arabian variety. The author had not seen the others. According to Lewis's *Materia Medica*, 2nd ed., 1768, also in the Library, Costus was the plant described by Pomet, and Costmary the *Balsamita mas*. A similar description is found in many Pharmacopœias and other books of the 18th century.

Costmary was used to give a bitter flavour to beer, and thence obtained the name of "Alewort."

Professional Competition.—Suicide among practitioners of the healing art in Russia has reached alarming proportions—a distressing feature of the return being the comparative youth of the victims. The majority of them average between twenty-five and thirty-five years of age—all of them in the prime of life and full flush of their powers. An explanation of the phenomena is sought in the fact that the Russian medical man's lot is a peculiarly hard one. As in Italy, the profession is vastly overstocked in all the cities of the empire, and in consequence competition is exceptionally severe—so severe that a physician has been known to hold consultations from 8 a.m. to 11 p.m. in order to gain the reasonable income of 600 roubles (about £95) a year. Besides, the Russian municipalities, seconded by the lay press, have instituted gratuitous consultations in public ambulances, by which the wealthy city of Kiev, for example, withdraws from the legitimate fees of the profession as much as 27,000 roubles per annum. There the poverty of the practitioner is

such that he has been known to give advice for 20 kopecks (8d.) for each consultation.—*Lancet.*

La misère des médecins en Allemagne est fort grande si l'on en juge par le fait suivant: La *Deutsche Tageszeitung* reproduit une lettre écrite par un médecin à son tailleur et à son associé pour leur demander un délai de paiement. Il termine ainsi: "Ce que j'aimerais le mieux, ce serait de prendre avec vous l'arrangement suivant; je m'engagerais, en échange des vêtements que j'ai reçus, à traiter les deux associés chacun pendant deux maladies à venir. Si l'un d'eux succombait un cours de la première maladie, le survivant aurait naturellement droit au traitement gratuit pour trois maladies. Je vous fais remarquer que par maladie je n'entends pas une indisposition passagère telle que rhume, coryza, etc., mais bien une maladie véritable, par exemple, une pneumonie, une fièvre thyphoïde, une hydropisie, un cancer, etc."—*L'Union médicale.*

The reason why there are so many starving doctors has been explained by a Parisian statistician, and with some degree of logic, too. He says physicians themselves are responsible for the state of affairs; they have taught their own skill to their patients, and to lady patronesses of hospitals and charities and societies. People no longer call in a doctor to bandage a wound, to vaccinate children, etc. The lay press is full of gratuitous medical advice on bronchitis, cramps, pimples, and headaches. Physicians *give* away thousands of consultations every year. These are some of the reasons why doctors are poor in Paris, and some of the reasons why they are poor in Chicago and elsewhere.—*Medical Century*, quoted in *Medical Age.*

The *Medical News* considers that hospital abuse is the cause of the hardships of the general profession, and if it increases much more the weary and struggling outside general practitioner can go home, shut himself up with his emaciated wife and starving children, and turn on the unlighted gas. No remedy is available. Experience has repeatedly shown that unanimous and persistent action on the part of doctors is impossible. Let a board of governors of any hospital or dispensary dismiss its attending staff because of a meek and proper assertion of rights, and however flagrant and arbitrary their action, other doctors will fall over each other in their haste to thrust their necks into the apparently welcome yoke.

Medical "Bits of Old Bristol" (2).—In 1278 the Bishop of Worcester, in whose diocese Bristol then was, made a visitation to the Monastery of St. Augustine, the church of which is now the Cathedral. He ordered that "in the infirmary food and drink was to be provided for the sick, and other things useful for them; and he forbade under a curse that any feign himself sick when he is not so, to live a dissolute life and fraudulently despise God's worship; and on the like penalty he forbad any secular persons being introduced to them, except the physician and the servants of the infirmary, nor should the friends that were in health meet there for the sake of drinking and surfeiting." (Barrett, *Hist. Bristol*, pp. 261–2). The term "physician of the infirmary" makes one at first think that this might be one of the forgeries by which Barrett was so deluded. But Mr. John Latimer tells me that it is probably only another instance of Barrett's mode of paraphrasing rather than translating the documents to which he had access. In this case he gives no reference to his authority. The order, which throws considerable light on the internal affairs of the monastery, had reference no doubt to its regular inhabitants; for although the hospitals of St. Bartholomew and St. Thomas in London had been in existence for some years for the care of the sick poor generally, there was nothing of the kind in Bristol at that time, and it would be only rarely that any strangers would receive attention in the monastic infirmary. As the ordinary residents in a monastery often numbered some hundreds, many of whom would be well advanced in years, the infirmary would never be without a large number of occupants. It formed an important part of the monastic institution, and "had a chapel annexed to it, wherein a service specially appointed for the sick was performed. It was furnished with suitable chambers, and was strewed with rushes as often as it was found necessary. A common appendage to it was a garden or court, for the recreation of the sick,

and in some monasteries there was also a long enclosed gallery for the same purpose. By the Anglo-Saxon Institutes, when a monk was taken severely ill, he announced his disease to the abbot, or the whole of the brethren, and having received the benediction, he retired to the infirmary. To this the Norman decretals add, that, from the day he began to eat flesh there, he should walk with his hood on, and leaning on a staff. As soon as he was convalescent, after being shaved, he was to attend Divine service at the hour before chapter, and if there was a mass afterwards, not to offer at it. When the chapter commenced, he was to enter as soon as the affairs of the order began to be discussed, solicit pardon for having eaten meat, throw himself at the feet of the abbot after having received absolution, and return thanks to him and the convent, for the assistance which he had received from them during his sickness. By the same institutes, when a monk was sick beyond prospect of recovery, it was notified to the abbot and convent, by the infirmarer, and they immediately attended him, and gave him extreme unction, and afterwards administered the Eucharist to him; when his death approached, they went to witness his departure, and began the commendation of his soul. According to the Norman decretals, he was visited at first only by a deputation, who sprinkled, confessed, and absolved him, and then gave him extreme unction and the Eucharist. He was constantly attended by two monks, who read to him the Passion of our Lord and the Gospels, while he continued sensible; and when he was deprived of his understanding, they never ceased singing the Psalter. As soon as he appeared to be on the verge of dissolution, a servant laid a hair cloth over him, and sat watching until he was just departing, and then with the two monks, ran to the cloister door, and beat upon a table to give notice to the convent to come to him, which they accordingly did, and began a religious service, after which they again retired, certain of them remaining with him to sing the Psalter. The others again returned to perform the commendation of his soul. Manual exercise was commonly adopted in the infirmary, as a means for restoring health, and it appears that some of the patients were occasionally employed in sawing billets. It was usual for monks, in chronic infirmities, to spend their remaining days in the infirmary, where they formed a little society, and as they would thus behold each other's ailments, they would, doubtless, be induced to bear each other's burdens, and thus fulfil the law of Christ; descending quietly to the grave, and encouraging each other with the joyful hope of a blessed immortality." (Fox's *Monks and Monasteries*, 1845, pp. 175–7).

The infirmarer mentioned above was a special officer known as "infirmarius," whose routine duty it was to administer to the sick all their meals, and "to sprinkle holy water after compline on all their beds. Before matins he went round with a lantern to see if any who were able to rise remained in bed; and he was required to proclaim all negligences to the chapter. He had two brethren to assist him in taking care of the sick. The abbot, with the consent of the chapter, was to appoint such a person infirmarer as might be able, in case of sudden accident, to receive the confession of the sick." (*Op. cit.*, pp. 146-7.) In addition, he "was to provide them physic and all necessaries whilst living, and to wash and prepare their bodies for burial when dead." (Tanner's *Notitia Monastica*, ed. 1787, p. xix.). "If any one diseased with the angistrum, so called *ab angendo* (from choaking), and by another name, *windy*, from short breathing, wished to be bled, he was to announce it to the Infirmarer, who was to order the servant, to whom that office belonged, to do it; and find him a candle for it." (Fosbrooke's *British Monachism*, ed. 1817, p. 197.)

It seems from a statement by Fox (*op. cit.*, p. 309) that special consideration for the sick was a distinguishing characteristic of the Augustinians.

By some mysterious blunder I failed, in correcting the proof of p. 384 of the December number, to set right the third line of the quotation from the Babees Boke, and by an unmerited disaster the corrections were not properly made in a slip which was sent out with several copies of the *Journal*. The line should read—

"Fallynge at veryaunce with felow and fere."

The Bristol
Medico-Chirurgical Journal.

JUNE, 1897.

In Memoriam.

JAMES GREIG SMITH,

M.A., M.B., C.M. Aberd., F.R.S.E.

At the funeral service of James Greig Smith, on June 1st, in the Church at Redland Green, the presence of a large number of mourners, including doctors, students, nurses, and personal friends, gave eloquent testimony to the widespread feeling of regret that, at the early age of 43, his life-work should have come almost suddenly to an end. His death had been the one topic of conversation amongst all ranks in and around the city, for he had made himself a reputation which had placed him in the front rank of his profession, and his work had brought him into contact with a very large circle of friends and patients. The illness which led to the fatal end was so short that the news of his death was a terrible shock to many who had not heard even that he was ill, and this, added to the sense of loss which it was felt that the neighbourhood had sustained, intensified the grief which was manifested on all sides.

Although apparently possessed of much physical vigour,

Greig Smith was by no means a man of strong bodily health. He suffered frequently from various developments of the rheumatic diathesis, having had acute articular rheumatism badly at least twice. Three years ago he had an attack of pneumonia which impaired his strength for some weeks, and perhaps, to a slight degree, permanently. On the morning of Monday, May 24th, he felt some pain in the left side of the chest, but attached no importance to it, thinking it rheumatism of the intercostal muscles. During the day he went to a consultation in the neighbourhood of Swindon, having for part of the journey to drive in an open carriage. In the evening, after his return to Clifton, he formed one of a dinner-party of congenial friends, to one of whom he remarked that he thought he had mischief in his left lung. After dinner he seemed bright, but left early. In the course of the night he vomited, and had a rigor and a temperature of 103°. Early in the morning he was seen by Dr. James Swain, who heard pleuritic rubbing in the left infra-axillary area. Some few hours later, when Dr. Shaw and Dr. Swain saw him together, there was distinct impairment of resonance over the lower lobe of the left lung from the posterior border to the posterior axillary line. The pulse was extremely small and rapid, the dyspnœa great, and the frequent cough brought away clear sputum brightly tinged with blood. On Tuesday night he had very little sleep, but on Wednesday morning he seemed rather better and did not seem to lose ground through the day. In the early part of Thursday he was doing fairly well, but about noon he became somewhat suddenly worse, complaining of pain in the head, and he was extremely restless. At 3 p.m. the signs of lung consolidation were found to have increased considerably. During the next few hours he became dimmed in consciousness, and in the course of the evening Cheyne-Stokes breathing was gradually developed. At 11 p.m. he was barely conscious. Through the night he became steadily worse, and he died at ten minutes past eight on the morning of Friday, the 28th.

Now that his place is vacant we are left to ponder over his life's work, and try to learn the lessons which may be derived from his short but eminently useful career. That it has been exceptionally useful all will gladly admit, for he was a pioneer in many things, and those who were much associated with him have profited greatly by his example and have been roused by his enthusiasm to a higher level of professional work. It may be truly said of him that he left the world a little better than he found it.

James Greig Smith, the son of Mr. Duncan Greig Smith, was born at Nigg, a village a few miles from Aberdeen, on June 21st, 1854. He received his early education at the Aberdeen Grammar School, a foundation of greater antiquity than the celebrated University of that city. Placed, on his entry in 1865, in the lowest or first class by the then rector, Mr. William Barrack, he passed up the classes year by year until he reached the fifth or highest in 1869. The numbers of the school at the time of Mr. Barrack's rectorship show in what reputation it was held as an educational centre, for in 1865 there were 328 boys there. There are unfortunately no records in existence of the prizes or distinctions gained by the boys, but in 1869 on leaving school Greig Smith's name appears sixth in a list which includes forty names placed in order of merit.

Leaving school, Greig Smith entered the University as an Arts Student in the winter session of 1869–70, gaining by open competition a bursary of £14 a year. During the time he studied the Arts he gained prizes in English, Logic, and Natural History, and in March, 1873, he graduated M.A., taking Honours in Natural Science. In his medical studies, his career was again marked with distinction, for he took the second prize in Botany, and the first in Surgery, Practice of Medicine, and Medical Jurisprudence, and finally graduated M.B., C.M., "with honourable distinction" in 1876. While a student he was clinical clerk to the then professor of surgery, Professor Pirrie, at the Aberdeen Royal Infirmary, and University Assistant to

him, 1874–5. A year later saw him House Surgeon at that institution.

With taking his degree his association with his University did not cease, for in October, 1881, he was appointed external or extra-professorial examiner in surgery and midwifery; but in April, 1883, on the ground of "the work being heavier than he expected, and occupying more time than he could spare," he requested the University Court to accept his resignation—a somewhat unusual course, but one to which the Court gave its assent. It need hardly be said that his services were much appreciated, but we have it on the authority of one who knew him well that "his dignity as an examiner was sometimes imperilled by his sense of humour."

Always pleased to honour its fellow-countrymen, the Royal Society of Edinburgh, on March 5, 1883, elected him a Fellow, when his name was proposed by Professor Stirling, Dr. Ogilvie Will, Professor Lister, and Dr. Henry Marshall. In the same year he married Miss Adela Ashby, who, with their only child, a daughter, survives him.

After his short experience as resident at Aberdeen, Greig Smith was appointed, in June, 1876, Assistant House Surgeon to the Bristol Royal Infirmary, the patients of which had been moved in the previous September to premises in Colston Street, which were used as a temporary hospital till October, 1876, while the Infirmary was undergoing sanitary renovation.

The Infirmary issued in 1879 its first and only volume of Reports. Of this, Greig Smith, who, after filling the posts of House Surgeon and Medical Superintendent, had then become Junior Surgeon to the Institution, was the Surgical Editor. He contributed to it an elaborate paper on "The Pathology and Treatment of Chronic Osteo-arthritis," in which he dealt specially with the natural history of the pathological processes which lead up to the disease. This article, which was embellished with ten plates lithographed from his own drawings, is marked by that care of observation and literary finish which were prominent features in all his after-work. It is also an excellent example of the endeavour which he made throughout the whole of his surgical career to constitute his practice a legitimate

deduction from pathology. The volume contained some other noteworthy contributions from him, including an exhaustive surgical report, which, unfinished by Mr. R. W. Tibbits at the time of his death, was completed by Greig Smith with that analytical ability for which he was so greatly distinguished. In the three years after the re-occupation of the Infirmary, *i.e.* up to the time of the issue of the Reports, there were no deaths from pyæmia or erysipelas, although those diseases had claimed forty-three deaths in the two years and eight and a-half months prior to the closing of the Institution. Notwithstanding this immunity,—which was not considered to be entirely due to the antiseptic method of Lister then in vogue,—the general death-rate was higher, and Mr. Greig Smith in this report dealt in a masterly way with the facts which show that a high hospital-mortality is no evidence in itself of defective sanitation.

Greig Smith, soon after his coming to Bristol, was an active member of the Society under whose auspices this *Journal* is issued. In 1878 the Bristol Medico-Chirurgical Society published a first volume of Transactions, including within the range of its record much of the work done from 1874 to 1878. The volume contains two contributions from Greig Smith. The first was a communication which he made to the Society in October, 1877, on the evening of his election, dealing with two cases of acute miliary tuberculosis. This was illustrated with microscopic specimens and drawings from his facile pencil, and with some detail he traced anatomically the course of infection in these cases. This paper, and also one on "Hemorrhage into the Pons and Medulla," are both illustrated in the volume of Transactions, which also contains a contribution which he made, in November, 1877, to a debate on "The Treatment of High Temperature of the Body," in which he gave an account of the results of treatment by cold baths and quinine in thirty-two cases in which each had been employed.

From this time onward Greig Smith was a frequent contributor to the work of the Society. In April, 1879, he read in outline the paper "On Osteo-arthritis," which was printed in full in the Infirmary Reports. In September of the same year, he showed a patient on whom he had successfully performed his

operation for extroversion of the bladder and epispadias. In January, 1881, he read an important communication "On the Histology of Fracture and the Formation of Callus." This, which, somewhat amplified, was published in the *Journal of Anatomy and Physiology*, he was always accustomed to look back upon as the best work he ever did. It was an admirably-written paper, marked by careful and laborious work done in the laboratory by himself, rather than showing an extensive knowledge of the work done by others in the same department; but it illustrates in this respect his well-known characteristic of self-reliance. He paid very little attention to the opinions of others, unless they were confirmed by his own observations. He relied upon his own work, and was guided entirely by his own experiment and research. In the following March, he gave particulars of two cases in which he had done Bigelow's recently-introduced operation of litholapaxy. Taking as a foundation the case of a patient with multiple sarcomata, he brought forward, in November of the same year, the result of his careful and original investigations on the pathology of these tumours. In February, 1882, he reported a gastrostomy which he had done in a case of epithelioma of the œsophagus.

In January, 1882, the Committee decided to recommend the Society to publish a second volume of Transactions, dealing with the communications of the previous four years; but when, at the meeting in September, it was reported that a satisfactory amount of material was not forthcoming for the purpose, and it was thereupon proposed to postpone the issue of the volume for a time, Greig Smith, who had been elected on the Committee in the previous February, seconded an amendment that an attempt should be made to consolidate the medical and surgical interests of the neighbourhood, with a view to the issuing of a publication which should embrace the work of all the men in the district. This amendment was, however, rejected, for its proposer and its seconder were the only persons who voted for it.

But in this particular matter the Committee did not accurately represent either the views of the Society or even of themselves, for at the general meeting in the following month a

resolution, in words almost identical with the rejected amendment, was carried without a dissentient. Greig Smith was again the seconder of the proposed innovation. A sub-committee was requested to report on the question, and to this he was appointed secretary. It was doubtless through the reputation he had gained as Surgical Editor of the Infirmary Reports that he was nominated editor of the contemplated journal, and he sent out a circular to the practitioners of the West of England and South Wales asking for their co-operation. The *raison d'être* of the journal he well expressed in the statement that "Such a publication issued in our midst and supported by ourselves would not only rescue from oblivion much that might otherwise be lost, but would also stimulate us more keenly in our efforts to advance medical science."

The appeal met with a considerable amount of support, and in July, 1883, the first number of *The Bristol Medico-Chirurgical Journal* was issued. Greig Smith put into the new venture all his professional and literary influence, and for it he worked hard; and although he felt bound to relinquish the editorship in 1892, he never ceased to take a cordial interest in its welfare, and from time to time still wrote for it, and in this number containing his obituary notice we have the melancholy privilege of chronicling as a book review some work of his which must have been amongst the latest of his literary doings. During the whole period of its existence it was a satisfaction to him to see the bantling, for the birth of which he was largely responsible, growing in influence year by year, and flourishing with a professional and financial success which has been vouchsafed to few journals of its kind.

During the time Greig Smith was editing the *Journal*, he was very busy in the work of the Society recording cases of operation—mostly in abdominal surgery—showing many specimens, and joining in his own luminous way in the discussions. In March, 1888, he described a case of cholecystotomy in which a stone the size of a walnut had been removed.

In 1888 Mr. Greig Smith was made an Honorary Fellow of the American Association of Obstetricians and Gynecologists,

and from 1890 to 1892 he was a Vice-President of the British Gynæcological Society.

He did much work in addition to that for the Bristol Society, and the bibliography which appears at the end of this notice will give some idea of his remarkable industry in advancing the knowledge of the subjects to which he gave his consideration.

Greig Smith became president of the Society in 1893, and took "Modern Medical Journalism" for the subject of his address. He was led to this by his experience as editor of the Society's *Journal*, a post which he had resigned only a short time before. He thought that modern medical journalism was decaying and getting stained by the trail of the advertiser, commercial and professional. If he took too gloomy a view of his subject, judging the whole of literature by some unfortunate examples, and forgetting that medicine and its allied sciences are represented to-day by journals of the highest class, the defects of his position were largely atoned for by the vigour of its presentment. The thought came over him, as he said, that perhaps after all he was in this question only a dreamer of dreams. And certainly he was so when he imagined it possible to re-establish a sort of Star-Chamber of medical literature which would permit no paper to be published unless it had received the approval of someone who might possibly know less of the subject than the author himself. For him Milton's *Areopagitica* had been written in vain. And yet those who desire the best results in medical journalism must to a certain extent sympathise with Greig Smith's lament. He was right in deploring the amount of scribbling done only in self-interest. But as in things spiritual so in things medical, if we gather up the tares we may root up the wheat with them. They must unfortunately grow together. But we can all go a considerable distance with Greig Smith and set our faces sternly against all work done, either in periodical literature or in pseudo-book form, for mere personal gain. And when, in the peroration of his address, he urged his hearers on bringing their work before others to diligently prepare their material, to avoid diffuseness, and to speak out their beliefs boldly and manfully, we know that

those were the aims he set before himself, and those which he diligently laboured to attain.

Greig Smith has been taken from us with such startling rapidity that it is difficult to realise that for us there is an end of that marvellous activity, that fertility of resource, that originality of matter and manner which ever characterised him, and far outside the membership of the Bristol Medico-Chirurgical Society will often come the sigh "for the touch of a vanished hand and the sound of a voice that is still," and we would fain believe of him that

> "Somewhere, out of human view,
> Whate'er [his] hands are set to do
> Is wrought with tumult of acclaim."

In 1894 Greig Smith was chosen to deliver the address in Surgery at the meeting of the British Medical Association held in Bristol, and those who were present were charmed by the simplicity and beauty of the language, as well as by the powerful arguments by which he advocated an increased attention to the Art of the Surgeon. This was always one of his favourite topics, and he was himself a forcible example of the advantage to an operator of cultivating the art as well as the science of surgery: for to him was ever present the paramount importance of the combination of hand with head, by which alone can be obtained the necessary qualification for the best surgical work, and though with him the brain-work in devising took the lead of the details in execution, yet care in manual and digital practice was always conspicuous as an essential element of his success.

Greig Smith was very rapid in diagnosis, especially in abdominal cases, and sometimes startled both patient and medical attendant by the readiness with which he gave his opinion on an abdominal case to which he had been called in consultation. He very seldom made a vaginal examination, either in cases of ovarian cyst or of large uterine fibroids, and was accustomed to say that if the case could not be diagnosed by abdominal palpation it could not be diagnosed at all.

In the operation room his nervous energy found its fullest

scope. In the performance of a critical operation he seemed sometimes to quiver with excitement. He was accustomed to talk almost incessantly while operating, more to himself than to others, and seemed by this means to find some vent for his feelings. He attributed great importance to a good assistant, and during the performance of an operation he would strongly disapprove of any departure from the instructions he had laid down, and woe betide anyone who, by talking on some other subject or by opening the door during the operation, attracted his displeasure. In the case of any emergency arising in the operation room, such as asphyxia during anæsthesia, his fullest energy was at once called forth. He would brush aside all assistants and invert the patient by his own strong arms, or he would seize the upper extremities and carry on artificial respiration until the crisis was over.

Greig Smith was early attracted to the subject of abdominal surgery, and from the outset of his career made it his especial study. He was a great admirer of Thomas Keith, whom he had seen operate on several occasions, and he took early opportunity to visit the operation rooms of other famous ovariotomists, such as Lawson Tait and Knowsley Thornton, from whom he received much kindness, and of whom he was accustomed to speak with great admiration. He always performed his ovariotomies and other abdominal operations in the general operating theatre, and never made any restrictions in the number of students or medical men present, but only made the request that they should not enter or depart during the actual performance of the operation. Greig Smith had probably performed some 300 ovariotomies, but he never published any exact statistics, although his rate of mortality was certainly very low, and his eminence in this department of work was justly recognised when he was asked to write the article on Ovariotomy in Allbutt and Playfair's recently published *System of Gynæcology*. He was very successful in the operation of complete hysterectomy for fibroids, which he performed with great quickness and dexterity, and which in his hands proved a very safe procedure. Supra-vaginal hysterectomy for malignant disease was also with him a very successful operation, and he hardly ever lost a

patient after it. The operation for ruptured perineum was one in which he took great interest; he very early had the opportunity of seeing Lawson Tait perform his operation for this condition, and adopted it at once, although he afterwards made some slight modifications of his own. Of late years intestinal surgery occupied more of his attention than any other branch, and he was unceasing in his efforts to effect improvement in this somewhat unsatisfactory department. He took part in the discussion on "The Treatment of Intestinal Obstruction" at the Annual Meeting of the British Medical Association, held in Birmingham in 1890, and he there advocated a method of treatment by intestinal incision and drainage which he constantly adopted in his own practice; he was accustomed to point out that many an acute case of intestinal obstruction, which will not admit of any extensive operation for its relief, may be tided over the critical period by the temporary relief thus afforded, and he never ceased to advocate this method of dealing with severe cases of this affection in preference to more prolonged and serious operations which the patient could not bear. In the operative treatment of cases of malignant disease of the intestine he early decided on a method which he found to be very successful; he performed the operation in two stages, first bringing the portion of gut involved in the growth outside the abdomen and fixing it there, afterwards, when adhesions had formed, removing the diseased bowel, and leaving an artificial anus to be dealt with at a later date. Many a patient with this hitherto intractable malady did he rescue from death and restore to comparative comfort. In this operation, as well as in the operations of gastrostomy and inguinal colotomy, his success was greatly aided by the principle of suturing the viscus to the raw parietal wound and not to the parietal peritoneum; he had numerous specimens which showed how firmly the stomach or the intestines would adhere, in a few hours, to a raw cut muscular or fibrous surface, whereas the union of peritoneum to peritoneum in the same period would be comparatively slight. His operations of gastrostomy, colotomy, and enterostomy were always performed in this way, and he attributed much of his success to this cause.

The work by which the name of Greig Smith will be best perpetuated is of course his book on Abdominal Surgery, which was his *magnum opus*, and the bringing out of which was to him a veritable labour of love. This is neither the time nor the place to review this work; suffice it to say that it has already run through five editions, and he was engaged in a sixth edition at the time of his death. The book filled a void much felt at the time of its first publication, and was welcomed in the warmest terms not only in this country and America, but also on the Continent. The fame of the book constantly brought him friendly communications and criticisms from all parts of the world, and these, which were much valued by him, were always turned to account in subsequent editions.

In 1888 Greig Smith became Lecturer on Surgery in University College, Bristol, the Chair of which was afterwards made Professorial. To this congenial work he devoted himself with that ardour which was so characteristic of him. In addition to lecturing during the whole of the winter session, he spent much time in the preparation and mounting of specimens, as well as drawings, to illustrate his lectures, and improve the museum of the Medical School. In this labour he was indefatigable, and the museum has been enriched by a large number of valuable specimens prepared entirely by his own hands, and which will remain as a lasting memorial of his enthusiasm and industry. As a teacher, he was forcible, lucid, and thorough. He was an excellent draughtsman, and was fond of illustrating everything he taught by a drawing. His earnestness and obvious love of his subject always proved contagious to students, among whom he was most popular, and his hours of clinical instruction in the wards were always attended by large numbers of them, who learned to appreciate the thoroughness of his teaching and to admire his profound knowledge of his subject.

With his literary tastes, it was inevitable that Greig Smith would be deeply interested in the project of a medical library for this district, and if, in the earlier days of the recent movement for its establishment, he did not enter into the plan with

all the vigour which he was accustomed to put into any work in which he was interested, it was only because he felt that his scheme of a large and comprehensive library might be endangered by the formation of one somewhat restricted in its original outline. But when it became possible, largely, if not entirely, through his influence, to gather under one roof all the existing medical libraries of the city, his whole-hearted support of the Bristol Medical Library was of the greatest value to the profession. At the first meeting of the Library Committee in May, 1893, he was elected its Chairman, a post which he held to the time of his death. In this he was a conspicuous success, being not only able to speak with authority on the literature, both ancient and modern, of his own particular branch, but also competent from the width of his knowledge to give most useful advice about the literature of all departments of professional work. Combined with this he had an ever-watchful eye on the practical details of library work, and to all who will have to fill this position which he so adorned he set an example that will be far-reaching if not permanent in its influence for good, and which it will be difficult to equal.

Greig Smith's early training in general literature must have been particularly thorough, and this he was ever careful to foster. His omnivorous reading, which extended from the ancient classics to the latest work of fiction, gave him the power of being a most charming companion. He was a brilliant conversationalist and could talk well on an endless variety of subjects, often delighting his intimate associates with sparkling, if sometimes caustic, epigram and simile or with forcible repartee. Notwithstanding the attention he paid to literature and his own special work, he found time for indulging his intense fondness for country life, and entered into its pursuits with the same zest that he showed for all the other things to which he devoted himself. He had a small country house at Burnett, near Keynsham, in Somersetshire, to which he often betook himself when opportunity offered, and where he was always glad to see his friends. With a limited experience he had become an excellent shot, and of late years he had become passionately absorbed in

golf. He was a persistent smoker and rarely missed the chance of a cigarette.

Among the recreations of his leisure time the plastic arts had a great fascination for him. Some of his figures and some medallions of his friends have great merit. In art matters generally he was an acute critic, being able to sum up, with great terseness and point, the merits and demerits of the subject under consideration. He had from time to time done many excellent pen-and-ink portraits and caricatures.

Strongly imbued with the scientific spirit and hating in his work anything that was not scrupulously exact, Greig Smith could find no atom of sympathy for that which savoured of ignorance or stupidity or carelessness, and he never hesitated, even if it caused some temporary annoyance to those from whom he differed, to expose in the most uncompromising manner any departure from what he considered to be the essential duty of all seekers after professional truth. Like most men with strong force of character, Greig Smith was not free from the defects of his qualities, and although those who had seen much of him may freely grant, in the words of him whose work he knew and loved so well, that

"He had twa faults, or maybe three,"

yet each one of us who was acquainted with his worth will fervently add two other lines from the same verse:

"Heav'n rest his saul, whare'er he be!
Is th' wish o' mony mae than me."

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PAROXYSMAL TACHYCARDIA.

BY

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THE cases comprised under the term paroxysmal tachycardia form a clinical entity characterised by attacks of greatly increased frequency of the heart-beat, varying from 130 to 300 a minute, of sudden onset, recurring at long or short intervals and of variable duration.

Paroxysmal tachycardia appears to have been first described by Payne Cotton[1] in 1867; Sir Thomas Watson[2] and Dr. Bowles[3] reported other cases immediately after Payne Cotton's recorded case. Since that time the condition has been frequently observed, and has been the subject of much discussion.[4] A consideration of these cases, and of those observed by myself, leads to this conclusion, that while gross pathological conditions are sometimes associated with the paroxysmal attacks of tachycardia, the latter affection is a functional disturbance, the precise pathology of which is as yet undetermined. The theories advanced in explanation of the phenomena are, briefly, that this disease is due: (1) To excitation of the accelerator nerve of the heart; (2) to paralysis of the vagus; (3) to disease of the intracardiac ganglia; (4) to disease of the myocardium. These various views will be examined further on; but it is evident that while such opposing theories are put forth in explanation of a disease, we are very much in the dark as to its true pathology. So many difficulties have to be faced in seeking to find a solution of this interesting pathological problem, that I have thought it best to consider that aspect of my subject after discussing the symptoms and etiology.

[1] *Brit. M. J.*, 1867, i. 629. [2] *Ibid.*, 752. [3] *Ibid.*, ii. 53.

[4] Since writing my paper, Dr. W. P. Herringham has published in the *Edinburgh Medical Journal* for April an interesting article on the affection, with an analysis of fifty-three recorded cases, and I have not hesitated to avail myself of his observations and bibliography in amplifying my own notes on the literature.

Symptoms.—The attacks supervene without any apparent cause in the majority of cases, though in others they follow on strong emotion or fatigue, or are associated with dyspepsia. The onset is always abrupt and sudden; the heart-beats do not increase in frequency progressively, but immediately pass from the usual rate to the extreme frequency of tachycardia, attaining a rate of from 150 to as much as 300 per minute.[1] Curiously enough, it is only rarely that the patients perceive any subjective sense of palpitation, though as a rule they are conscious of the attack from a peculiar sense of tremor and lassitude, with a feeling perhaps of discomfort in the precordial region, of carotid pulsation or constriction in the throat or chest.

The attacks generally cease as suddenly as they come on, the cessation being accompanied by a feeling of "a violent blow on the nose" (Case 2), "a rebound in the whole body" (Œttinger's case[2]), "a sense of impending death, or as if something had burst in the cardiac region" (Bouveret[3]), or a general sense of relief and well-being. The attacks are of variable duration, lasting from a few seconds to some weeks, recurring at intervals of months or years, in most cases, but with much greater frequency in some cases. During the short attacks, the physical signs are little marked; the pulse is small, frequent, regular, and of low tension; the carotids pulsate, and the apex impulse is more plainly seen and felt than usual. In the intervals between the attacks, the heart is usually normal in rhythm and function.

But when the attacks persist for many hours or days, signs of cardiac failure supervene, in the form of pallor, soon giving place to cyanosis, dyspnœa, pulmonary œdema, bronchorrhœa with copious mucous expectoration and dyspnœa, anasarca, oliguria; sleep becomes restless, or the patient may suffer from insomnia, and sometimes cerebral disturbances arise, such as nightmares, delirium, &c. It is unusual, and probably only accidental, for organic disease of the heart to be present in these cases; but in the long attacks the heart becomes consider-

[1] Bristowe records a case in which he counted a pulse of 308 a minute, *Diseases of the Nervous System*, 1888, p. 123.

[2] *Med. Week*, 1894, ii. 470. [3] *Rev. de Méd.*, 1889, ix. 753.

ably dilated and mitral incompetence arises, the liver is enlarged, the jugulars pulsate, and transient albuminuria may supervene.

The two cases I will now relate are fair types of the mild and aggravated forms.

CASE 1.—Mr. A. P., aged 81, had suffered from paroxysmal tachycardia from boyhood, and could perfectly well recall attacks as far back as 1843 (fifty-three years). His mother had suffered from similar attacks. His pulse would suddenly rise to 120 or 130 a minute, and as suddenly drop again to 60. In his old age it occurred less frequently than when he was young.

He could not give any cause for the attacks, but stated definitely that they were associated with dyspepsia, and he believed indigestion induced the attacks. During an attack he felt no great discomfort, but it was often accompanied by a "feeling of compression over the root of the nose." The attacks sometimes lasted a few minutes only, sometimes many hours, and they gave rise to a sense of lassitude; but he never felt any active sense of palpitation. The attacks were more liable to come on while he was resting. He had no difficulty or oppression in breathing in an attack. He had found by long experience that a strong nip of brandy was the best thing to cut short an attack, and that if that was not sufficient, "digitalis and brandy together invariably controlled the condition."

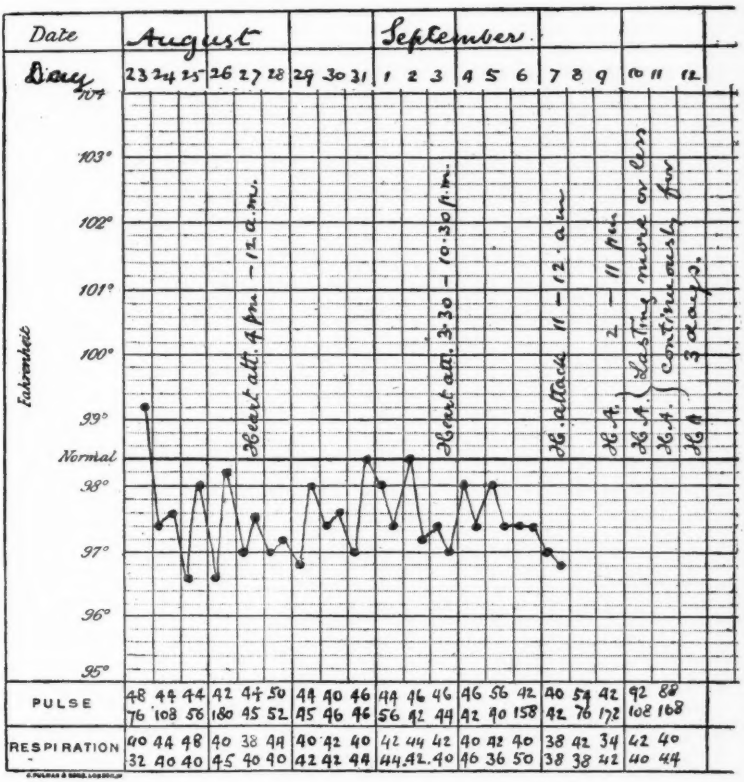
CASE 2.—Mrs. J. S., aged 62, consulted me in August, 1894, and was subsequently seen with me on many occasions by Dr. Long Fox and Dr. Shingleton Smith. She complained of intense weakness, and had a cough with rather profuse muco-purulent expectoration. She also stated that she was subject to attacks of palpitation.

The patient stated that when about three months old she had inflammation of the lungs, and that she believed she had never recovered from the effects of that attack. At any rate, she had always had a delicate chest and had been subject to chronic bronchitis from early childhood. Twenty years ago, she remembered the cough with expectoration was very troublesome and it had gradually increased, but had been greatly aggravated ever since her heart-attack last winter.

Her first heart-attack came on after a long and weary journey from Madeira, about six years before I saw her. The onset was sudden, and seemed "like an engine in her chest"; it lasted ten minutes only, stopping as suddenly as it came. She felt utterly prostrate from it and thought she would die. Six or seven months later she had her second attack, and then she had attacks about every six months, each lasting a few hours. In 1892 she had attacks, and one lasting as long as seventeen hours, the pulse reaching 200 a minute. Not long after, she told me, she had consulted Sir Douglas Powell for her chest, and that she had a heart-attack while in his study, when the pulse-rate was 240. From that time her attacks recurred at frequent intervals. In the spring of 1894 she had a very long attack, lasting a "whole week," while under Dr. Thomas, of Southampton. The attacks, as I observed them, will be described further on.

When I saw her she was very thin—in fact, emaciated, suffering from gastric catarrh. Loud râles could be heard all over the chest, front and back, and though there was no area of dulness on percussion, distinct and well-marked cavernous breathing and voice-sounds were found over the base of the left lung.

The heart was somewhat dilated, the apex-impulse being in the 5th interspace, one and a half inches outside the nipple line. The pulmonary second sound was accentuated, but no bruit was present at that time. The pulse-rate was generally between 44 and 48 a minute, but it often varied from one minute to the next, reaching 50 to 60 a minute, and was often as low as 40.



She was a bright, intelligent lady of neurotic temperament, but with no evidence of any tendency to hysteria. On August 30th she had one of her "attacks." She said she could generally tell beforehand when an attack was about to come on, but could not describe any definite prodromal symptoms beyond an unusual sense of languor. They came suddenly and left suddenly, often "with a sensation of three violent blows on the bridge of the nose." Sometimes an attack would be cut short by a strong nip of whisky. During an attack she generally felt tired and disinclined for any exertion, but as a rule felt no sense of palpitation. Respiration was not appreciably affected

during an attack; but it must be remembered that when I saw her the lungs were extensively diseased, and the respiration-rate was generally 40 or 50. The pulse would often range as high as 200 a minute during the attack.

The following notes and the sphygmographic tracings well illustrate the variations in pulse-rate:—

Aug. 30.	10.30	a.m.	...	pulse	160	Aug. 30.	11.15	a.m.	...	pulse	112
,,	10.45	,,	...	,,	156	,,	4.15	p.m.	...	,,	44
,,	10.55	,,	...	,,	156	,,	4.30	,,	...	,,	198
,,	11.0	,,	...	,,	104	,,	4.32	,,	...	,,	204

Six cactina pellets, with fifteen minutes' interval between each, did not seem to relieve her, but were followed by excitement and wandering. One-fifth of a grain of morphine given in the evening apparently gave rise to persistent vomiting, without any relief.

On Oct. 20th, at four p.m., Dr. Shingleton Smith saw her with me during an attack which had lasted since the previous day. The pulse-rate was 200 a minute. Although she had had very frequent attacks, and the one she was in at the time we saw her had lasted nearly twenty-four hours, there was no cardiac bruit, nor was the pulse affected by sitting up. The liver dulness was not increased. We gave her syr. chloral ʒi., tinct. dig. ɱx., sp. æth. co. ɱx., every two hours.

She had six doses of the mixture, yet passed a sleepless night; but on the following morning the pulse had improved in volume, though still small and of low tension and down to 48 a minute. On Oct. 22nd, the pulse having meanwhile improved and ranging about 64 a minute, a distinct mitral systolic bruit was audible. During November and December, in my absence from home, Dr. Shingleton Smith kindly took charge of the case. She had several attacks, but the heart in some measure seemed to be controlled by infusion of digitalis or by digitalin.

In January she had become worse, and on Jan. 8th she lost consciousness and was apparently dying; but this condition was probably unconnected with her heart-trouble, and the following day she was better again. On Jan. 10th, while I was feeling her pulse, which was 60 and fairly strong, it *suddenly* became very feeble and irregular: 120 beats a minute could be counted with difficulty. Auscultating the heart at once, I found it was beating regularly at 200 a minute. A few minutes later, whilst my finger was on the pulse, it *suddenly* reverted to 60 a minute, becoming at once regular and fairly strong again.

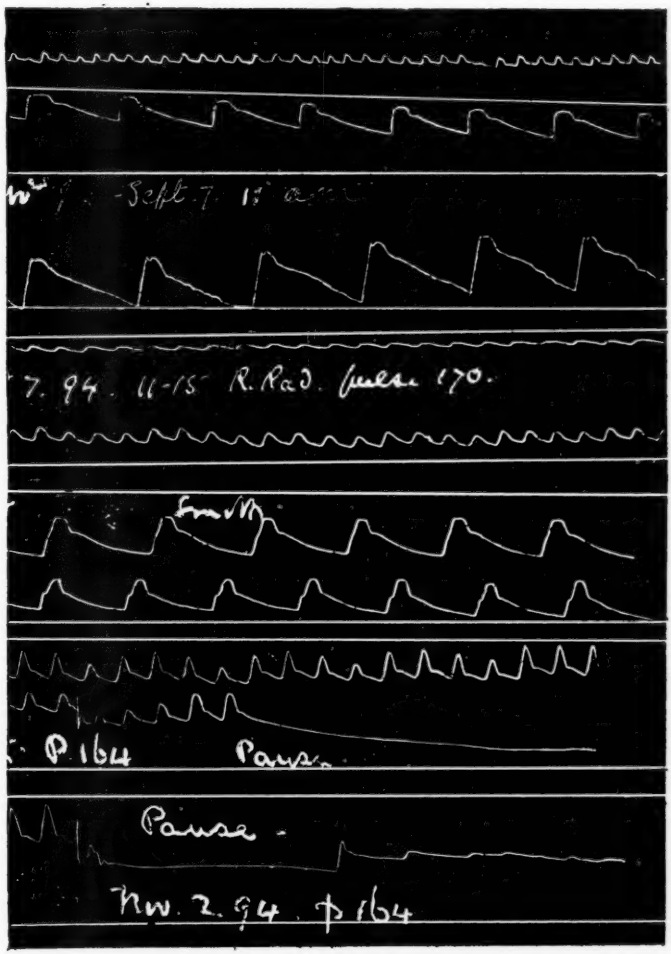
It would be tedious to follow the case in detail any further. Suffice it to say that the condition of the patient, till the time of her death on Sept. 8th, 1895, was practically a repetition of the varying conditions just described.

Atropine, cactus, chloral, chloralamide, and sparteine sulphate had all been tried in considerable doses, but none of them had any appreciable effect in controlling the heart condition. Digitalis frequently failed, but on the whole I believe it materially helped the cardiac condition, especially when signs of failing circulation supervened after prolonged attacks. Yet it did not prevent the occurrence of the tachycardia, nor can one say that it cut short any attack, for the attacks were so variable in duration that it was impossible to determine how far their cessation was attributable to the influence of the drug. The patient died suddenly in the night, when she had been apparently going on as well as usual.

Dr. Shingleton Smith and Dr. Fisher made a *post-mortem* examination, as I was away from home. The "cavity" at the base of the left

CASE II. MRS. J. S.

Sphygmograms.



1. Pulse rate 200 a minute, June, 1892. 2. Tracing June 21, 1892. Nos. 1 and 2 from tracings by Mr. Lammiman, a former medical attendant. 3. Tracing September 7, 1894. 4 and 5. Pulse tracings fifteen minutes later. 6 and 7. Tracing of Pulse at 60. 8. 9. 10. Tracings showing periods of asystole during a tachycardiac attack. In No. 9 the original sphygmogram shows that the pause corresponded to thirteen beats of the tracing No. 8.

lung was found to be a group of finger-like dilated bronchial tubes in the collapsed lower lobe; all other parts of the lungs were emphysematous. The heart was large and flabby, the muscle pale and soft; it was considerably dilated, and the mitral valve incompetent. The stomach was dilated, but otherwise appeared normal.

Etiology.—My first patient stated that his mother suffered from paroxysmal tachycardia, and Œttinger's patient stated that his maternal grandmother, who died aged 96, and his mother, who died young in childbirth, had been subject to paroxysms of palpitation; while his son, aged 29, had for some years suffered from the same condition. It is worthy of note that the grandfather of Buckland's case[1] was a general paralytic, and that the grandmother died insane. The mother and brother of Faisans' patient[2] probably suffered from paroxysmal tachycardia.

In several cases the attacks have supervened after influenza. Dr. Symes Thompson,[3] at a discussion on influenza at the Medical Society of London, called attention to the records of neurotic disturbances during previous epidemics, and alluded to the theory that pulmonary affections were due to the removal of nerve-control of the lung, observing that there was a good deal of evidence of serious affection of the function of the vagus. In several cases he had met with tachycardia, the heart-beat reaching 200 a minute.

There was a history of rheumatic fever or rheumatic pains prior to the attacks in 7 out of 57 cases. Syphilis had been contracted in still fewer cases. One or two cases have followed after malaria, and one arose after measles. Oliver's case[4] had become very nervous after an accident, and it was after this extremely neurotic condition had developed that the attacks began to come on. One of Klemperer's patients[5] stated that the paroxysms had immediately followed upon a severe blow on the chest, and another developed the condition while in hospital with a compound fracture of the leg. In Talamon's case[6] the affection developed after a fall on the head. Seymour Taylor

[1] *Tr. Clin. Soc. Lond.*, 1892, xxv. 92.
[2] *Bull. et Mém. Soc. méd. d. Hôp. de Par.*, 1890, 3e sér. vii. 964; cited by Herringham.
[3] *Brit. M.J.*, 1891, i. 1312. [4] *Ibid.*, 217.
[5] *Deutsche med. Wchnschr.*, 1891, xvii. 335.
[6] *Semaine méd.*, 1891, xi. 13; cited by Herringham.

suggests[1] that it is liable to arise reflexly from disease of the abdominal viscera. But in the great majority of cases no cause for the occurrence of the disease is assigned.

Diagnosis.—The abrupt onset and decline of the peculiar paroxysmal attack without any adequate apparent cause, and occurring in a heart generally healthy, is so characteristic that there is seldom any difficulty in differentiating the affection; for, as Œttinger aptly puts it, "all cases of essential tachycardia are, so to speak, cut from the same pattern."

There is no exophthalmos, enlargement of the thyroid, general tremor, or other symptoms, which go to make the syndrome of Graves's disease, apart from the fact that the onset and decline of the tachycardia of Graves's disease is less abrupt than in the affection under discussion.

Cases of injury to or disease of the vagus nerve, or degeneration of the bulbar nuclei of the inhibitory nerve of the heart, are often accompanied by abnormal frequency of the pulse, amounting to tachycardia; but the tachycardia in such conditions is persistent, not paroxysmal. The only cases which might be mistaken at first are those in which the patient is seen for the first time during the persistence of a long attack, with the physical signs of cardiac failure, with oliguria and albuminuria, especially if, as very rarely happens, there is evidence of concomitant organic heart disease. Even in these cases the history of previous attacks would be such as to lead to a strong suspicion of the true nature of the disease.

Prognosis.—Many writers appear to regard the disease as a purely functional disturbance of the heart, and it is often regarded more lightly than is warranted by a consideration of the cases recorded.

It may arise at any age; thus, at the Clinical Society, W. P. Herringham[2] recently exhibited a girl, who probably had attacks from the age of six years. The child was under observation from Sept., 1895, when she was eleven years old, to June, 1896, during which time she had seven attacks, and the history showed that she had been subject to similar attacks for at least five years. They began quite suddenly in a period of

[1] *Practitioner*, 1891, xlvii. 18. [2] *Brit. M.J.*, 1897, i. 144.

perfect health, and without adequate cause, the heart-beats reaching 260 a minute. The heart was permanently enlarged, and Herringham suggested there might be adherent pericardium, and that the myocardium itself might, as the result of some former disease, be unhealthy; but there was no further evidence of such disease.

Buckland has related[1] a very similar case in a girl aged 11, whose history pointed to the attacks having occurred at intervals from the age of 6. She had developed measles when Buckland saw her, and her temperature rose during the attacks sometimes to 103° F.

In the cases collected by Herringham 30 were men and 23 women. Seven patients were aged between 20 and 30 when first seen, and 5 others gave this decade as the date when the attacks began (6 men and 6 women). Eight patients were seen between 30 and 40 years of age, and in five others the disease had begun at this period (all men). Ten cases were either seen or reported to have begun between 40 and 50 years (5 males and 5 females). Over 50 years, Herringham[2] found only 3 cases (1 male, 2 females). This author found records of 7 deaths; Brieger's case[3] died at 33 with fibrosis of the wall of the left ventricle, Bristowe's[4] at 19 with dilatation only, Eccles's[5] apparently in late middle life. Three deaths occurred between 20 and 30. Between 30 and 40, four of the patients died, and there were two *post mortems* recorded. In one the heart was found much enlarged, there were hemorrhages in the epicardium, fatty degeneration of the myocardium, and vegetations in the auricular surface of the mitral valve.[6] In the second,[7] the case of a man aged 35, who had had fits of palpitation and breathlessness for three months, there was a patch of recent fibrosis, deep red in colour, in the wall of the left ventricle. Four deaths occurred between 40 and 50 years, and the one examined *post mortem* revealed only dilatation of the heart.

To these may be added the two cases I have recorded. The

[1] *Loc. cit.* [2] *Loc. cit.* [3] *Charité-Ann.*, 1888, xiii. 193.
[4] *Op. cit.*, p. 23. [5] *Lancet*, 1891, ii. 118. [6] Fränkel, *Charité-Ann.*, 1878, v. 273.
[7] Fräntzel, *Deutsche med. Wchnschr.*, 1891, xvii. 321.

first, a male, had attacks in early boyhood, and died aged 81. The second, a female, apparently had her first attack at 56 years of age, and died aged 63. The *post-mortem* findings of the second case have already been described.

It will be seen that the prognosis must always be guarded; for although patients may be subject to attacks from early childhood and reach a ripe old age, the few *post mortems* recorded (eight) show that although there is very frequently nothing abnormal in the condition of the heart beyond obvious dilatation, the tendency of repeated and prolonged attacks is towards cardiac failure. Œttinger states that Bouveret, Sollier, and A. Fränkel have reported cases of death in the course of a paroxysm of tachycardia, the fatal issue being the result either of acute asystole or syncope, and there is little doubt that frequently recurring attacks may *per se* lead to a fatal result at a comparatively early age. Bouveret[1] observed a case in which the patient recovered after an attack lasting thirteen days; but Bristowe reports a case in which the paroxysm lasted five weeks, yet the patient recovered. No less than ten cases were observed by Bristowe, and he remarks that "speaking generally of these cases of recurrent palpitation, I should be inclined to say that the prognosis is fairly hopeful for those persons who are able to lead quiet lives, who avoid mental or bodily excitement and overwork,"[2] etc., and that the disease may even be arrested.

Pathology.—Paroxysmal tachycardia is so peculiar in the remarkable similarity of the cases as regards the essential features of the disease, that it is difficult to suppose that they are not all due to the same pathological condition, though the lesion may be induced by various causes. The mere fact that in a small proportion of cases there has existed evidence of organic disease of the heart can scarcely be held to support the view that it is due to disease of the myocardium. In most cases examined after death the heart has been found dilated; but while the dilatation and failure of the heart may have caused the death, it would be as illogical to attribute the paroxysmal attacks to dilatation as it is to say that disease of the

[1] *Loc. cit.* [2] *Op. cit.*, p. 135.

coronary arteries is the cause of angina pectoris, overlooking the fact that dilatation of heart and disease of the coronary arteries are both very commonly observed *post mortem*, while paroxysmal tachycardia and even angina pectoris are certainly uncommon in comparison.

Moreover, it is inconceivable that organic disease of the heart should give rise to these paroxysmal attacks from early childhood to old age without declaring itself, and that the attacks should recur at intervals, sometimes of months, sometimes of years, the heart affording no evidence of any abnormality in function in the intervals. I think we may therefore set aside the view that the affection is generally due to disease of the myocardium or pericardium, and assume that the hereditary history of several cases, the neurotic temperament of the majority of patients, the clinical character of the affection, and the usual absence of any evidence of organic heart disease point strongly in favour of the very general belief that paroxysmal tachycardia is a functional neurosis.

Cotton's original view was that the tachycardia was due to irritation by abnormal matters in the blood or to extraordinary sensitiveness of the heart. But the reports of other cases led him to see from the essentially paroxysmal nature of the attacks and their sudden onset and decline that toxic matters in the circulation would not account for the disease.

The theory that the affection is the result of paralysis or paresis of the vagus has been advanced by Tuchzek,[1] Nothnagel, and others. Nothnagel stated[2] that "it was conceivable that there might be . . . sudden paresis of the vagus," and that he was inclined to this view. "One might suggest that, in the same way that intermittent paralysis occurred in other motor nerves, such intermittent functional paralysis might also occur in the vagus." Now, Nothnagel believed that the fact that his patient could stop his attacks by a deep inspiration, which would put the terminations of the vagi in the lungs on the stretch, supported his pathological theory. But even if his explanation be correct, and we might cite with greater force the

[1] *Deutsches Arch. f. klin. Med.*, 1878, xxi. 102; cited by Herringham.
[2] *Brit. M. J.*, 1887, i. 238.

cases where compression of the vagi in the neck (3 cases) caused cessation of the attacks, it only showed that by strong stimulation the vagi were able to inhibit the motor ganglia in the heart, and it in no way proved that paresis of the vagus had caused the tachycardia. Simple pressure in the right ovarian region, as well as compression of one vagus, or electrisation of the precordial region, would cause cyanosis and slow the pulse in Brieger's case; while on the other hand, in most cases no amount of pressure or electrical stimulation of the vagus was of the slightest benefit. The vagus paresis theory is supported by Farquharson,[1] and by Handfield Jones who from a review of cases remarks that "the associated symptoms point very decidedly to the implication of the vagi in the disorder; in 5, the breathing was notably affected, and in 2 the stomach was deranged. My notion is that the pathema is a paralytic neurosis of the vagi, or of their cardiac branches, essentially similar to a common neuralgia, *e.g.* sciatica."[2] The vagus has been examined histologically in one case at least (Brieger's case), and found absolutely normal. We have therefore to presuppose a structurally normal nerve is subject to intermittent paresis; for in many cases the pulse-rate is insufficient for a complete paralysis of the vagi, and yet no amount of stimulation by mechanical means, faradisation or drugs, suffices to increase its activity, which is nevertheless spontaneously resumed on the abrupt cessation of the attack.

Nor are we left to mere conjecture as to the result of paralysis of the vagus. In several cases of bulbo-spinal disease (bulbar paralysis, tabes,) the vago-accessory nuclei have been found atrophied, with consequent paralysis of the vocal cords.[3] Now the nuclei of origin of the inhibitory nerve of the heart are very close to the nuclei of origin of the motor laryngeal nerves, and have been equally involved in the atrophic degeneration, yet only *persistent* frequency of the pulse

[1] *Brit. M. J.*, 1875, i. 770.

[2] *Studies in Functional Nervous Disorders*, 1870, p. 608.

[3] I cannot of course enter here into the debated question whether the motor nerves of the larynx have their nuclei of origin in the bulbar accessory or in the nucleus ambiguus, and my wording must not be taken to imply adherence to either view.

has been observed, and the tachycardia has never been either paroxysmal or so rapid as has been observed in paroxysmal tachycardia. Gowers cites[1] a case of Guttmann's, in which a boy after diphtheria suffered from paralysis of the soft palate and one sterno-mastoid, and in whom the respiration became 12 and the pulse 120, and remarks that in many other cases a similar change in the pulse and respiration has been noted, and even a pulse-rate of 160 to 200. It is worthy of note, however, that Ross writes "there is no trustworthy record of retardation of the pulse which could with probability be referred to irritation of the vagus, but a pulse rising before death from 130 to 150, or even higher per minute, has been frequently recorded, and is probably caused by paralysis of the vagus."[2] Many cases of division of one vagus nerve by injury or during surgical operations are collected by Roswell Park,[3] and he states that from "studying case-histories, however, we come to the conclusion that the equality and frequency of the pulse is practically uninfluenced by pneumogastric division, and that no really serious disturbance has ever been really due to such accident." In cases of profound poisoning by atropine the pulse in man may be doubled, atropine paralysing the terminations of the vagi in the heart. A very interesting case is recorded by Gaipa and Titone,[4] in which the respirations in a strong man, aged 25, for a time became quickened after influenza, amounting to 120 a minute. They attributed this to a temporary functional disorder of the respiratory centre in the medulla (and perhaps Symes Thompson's cases of tachycardia after influenza were somewhat analogous,) but there was no history of the attack being paroxysmal. At any rate, this case would seem to show that it is possible for an isolated lesion of the cardiac inhibitory nuclei to occur; consequently one of the many difficulties in accepting the vagus theory would be removed. Yet, although some cases of tachycardia may be rightly attributed to a central medullary lesion, I can

[1] *Diseases of the Nervous System*, 2nd ed., vol. ii., 1893, p. 280.
[2] *Diseases of the Nervous System*, 2nd ed. 1883, vol. i. p. 975.
[3] *Ann. Surg.*, 1895, xxii. 145.
[4] *Riforma med.*, 1891, vii. pt. 4. 688; abstract in *Brit. M. J.*, 1892, i. Epitome, p. 33.

discover no sound reasons for referring *paroxysmal* tachycardia to a lesion of the medulla or of the vagus nerves.

There are still stronger grounds for rejecting the view that paroxysmal tachycardia arises from excitation of the augmentor nerve of the heart. I may remind the reader that the augmentor nerve-fibres are derived from the spinal cord by small medullated fibres, which pass out from the anterior nerve-roots of the upper dorsal nerves, especially the second and third, to reach the cervical sympathetic ganglia. These fibres passing through the sympathetic ganglia form the cardiac branches of the sympathetic to the superficial and deep cardiac plexuses. Now, with the inhibitory nerves intact, it is apparently impossible to obtain a greater rate of cardiac beat than 150 by any stimulation of the augmentor nerves, and moreover "in the mammal when the augmentor fibres are stimulated, some time elapses before the maximum effect is witnessed, and the influence of the sympathetic may last some considerable time after stimulation has ceased" (Landois and Stirling[1]); and, further, not only is the rate of the heart-beat increased, but likewise the force. Thus even if in paroxysmal tachycardia we conceive that the vagus is paralysed or paretic, while the sympathetic cardiac nerves are stimulated, we are still confronted with the clinical fact so constantly observed in paroxysmal tachycardia that the cardiac beats pass abruptly from the normal, or even abnormally slow rate, to the very rapid rate of 180, 200, or even 300, and as abruptly return to the normal. And yet if the theory I hold as to the pathology of Graves's disease be rightly held, we have already clinical examples of paresis of the vagus with excitation of the sympathetic. The medulla oblongata contains "many centres presiding over complex co-ordinated organic phenomena, regulating and controlling in their mutual action and reaction still lower organic centres in the spinal cord, in the heart muscle, in the muscular walls of the vessels, etc. But it is inconceivable that, between the lower organic centres in the medulla and the highest perceptive and volitional centres in the cortex, there are no intermediate or organic centres

[1] *A Text-Book of Human Physiology*, 4th ed. 1891.

higher than those in the medulla, viz. subconscious-emotional or higher organic centres, which regulate and control the very complex organic phenomena of emotion. . . . If such higher organic centres exist they are subject to disease, and while on the one hand their disturbance will be attended by the highly complex organic phenomena corresponding to those normally associated with profound emotional disturbance, they will be accompanied by the still less understood conscious phenomena of emotion conveniently described as emotivity. Now sudden intense or prolonged shock or grief in the first instance inhibits the heart's action, slows the pulse, raises arterial tension, inhibits secretion of the skin, etc. But if sufficiently intense, or if acting on an inherently weak nerve structure, such a degree of molecular disturbance may be induced in the affected regions that death may be caused either immediately or in a short period; or if the disturbance is less marked, the affected nerve structures may be rendered more or less permanently paretic, with consequent secondary phenomena of emotional shock, viz. tachycardia, arterial dilatation with low tension, sweating, etc. Thus, from defective control, the accelerator nerve to the heart runs riot on the slightest provocation, while flushing, perspiration, and excitation are exaggerated by slight causes, such as the visit of a stranger, slamming of a door, and so forth, while, together with exophthalmos, ocular paresis, and thyroid enlargement, they are more or less constantly present. This group of symptoms is known as Graves' disease. The excessive thyroid secretion, when present, aggravates the symptoms which it did not cause, just as starch and sugar in the diabetic diet aggravates the disease which these common articles of food do not cause."[1]

Another theory is that paroxysmal tachycardia is due to reflex excitation of the augmentor nerve of the heart. It is needless to recite again the discrepancies between the clinical facts of the disease in question and the known physiological phenomena which supervene on reflex excitation of the augmentor nerves, but I would draw attention to recorded cases in which reflex causes of irritation have given rise to tachycardia,

[1] *Clin. J.*, 1895, vii. 96.

an excellent example being furnished by Spencer Watson's[1] case of nasal polypi associated with tachycardia, which disappeared on removal of the polypi by snare and cautery. Dr. Sansom, he remarks, has met with similar cases, and on seeing this patient at once recognised the probable connection of the cardiac and nasal trouble. But in these cases the tachycardia is persistent and the pulse rarely rises above 150; in other words, the reflex tachycardia is sharply differentiated from paroxysmal tachycardia.

It only remains to consider the evidence in support of the view that in paroxysmal tachycardia we have to do with some pathological condition of the intracardiac automatic nerve centres. Physiological observations tend to prove that it is possible to obtain a much more frequent heart-beat by direct stimulation of the heart than by any known means of acting on the heart through the branches of the cardiac plexuses. Thus Frau Serafin,[2] by opening or closing, or by reversing, a strong constant current applied to the heart 140 or 180 times a minute, found the number of beats could be raised from 80 a minute to 140 or 180. It may be urged that this only proves that, uncontrolled by the inhibitory nerve, the cardiac muscle is capable of responding to this number of shocks per minute; but at any rate it shows that the intracardiac ganglia, unlike the extracardiac nerves, do not prevent this very frequent heart-beat. But it is certain that conditions may arise which render the intracardiac motor-mechanism independent of the inhibitory nerve; for instance, "physostigmin or Calabar bean excites the energy of the cardiac muscle to such an extent that stimulation of the vagus no longer causes the heart to stand still."[3]

Another noteworthy point in favour of the location of the neurosis in the intracardiac ganglia is the fact that *Cactus grandiflorus* always seemed to aggravate the attacks of my case, No. 2. Now Myers proved experimentally that in dogs, cactus or its active principle cactina directly stimulated the intracardiac accelerator ganglion, both vagi and sympathetic cardiac nerves

[1] *Brit. M. J.*, 1895, ii. 1097.

[2] Cited from Landois and Stirling, *op. cit.*, vol. i., p. 98.

[3] *Ibid.*, p. 99.

being divided, and to such a degree that stimulation of the divided end of the vagus no longer arrested the heart's action.[1]

Bearing these physiological data in mind, it is interesting and instructive to consider the clinical antithesis of tachycardia, bradycardia, and we shall find much to support the contention that the intracardiac ganglia are subject to functional disorders, which manifest themselves by definite clinical conditions. Hodgson[2] records a case of bradycardia with asystole in a man aged 44. The pulse fell steadily in the first three weeks after admission to the Sussex County Hospital from 108 to 52, and subsequently, after eleven weeks, to 24 per minute, when he developed pericarditis, from which he recovered. He was re-admitted twenty-seven weeks from his first admission, suffering from "fits" associated with syncope. When the pulse stopped for fifteen seconds, he was faint only; when it ceased for thirty seconds, an epileptiform fit occurred. For six months he was subject to these attacks, varying in number from one a week to a number daily so great as to be practically uncountable. On one day they occurred every quarter of a minute for ten hours. The average pulse at this time was 21, the slowest recorded pulse being 6. Latterly, the attacks were heralded by vomiting and a feeling of intense illness.

True bradycardia is not infrequently associated with vertigo and sudden loss of consciousness, which differs from an epileptic fit, and is the consequence and not the cause of the bradycardia;[3] in fact, the so-called fit is probably of the same nature as the sudden loss of consciousness in laryngeal vertigo.[4] Bradycardia is liable to abrupt onset and decline, as in Hodgson's case. It would almost seem that we may have bradycardia associated with paroxysmal tachycardia, for in my Case 2, as I have already mentioned, the pulse-rate, despite a very extensive lung trouble, was sometimes only 44; and the pulse tracings, Nos. 9 and 10, show very well the occurrence of prolonged asystole during attacks of tachycardia.

[1] See my paper on *Cactus grandiflorus*, in *Practitioner*, 1891, xlvii. 266.

[2] *Brit. M. J.*, 1891, i. 760.

[3] On this point see Balfour, *Edinb. M. J.*, 1890, xxxv. 593.

[4] See McBride's *Diseases of the Throat, Nose, and Ear*, 1892, p. 188.

For the reasons I have related above, I think that we are warranted in the conclusion that paroxysmal tachycardia is due to a neurosis of the intracardiac ganglia, and that although the affection is in many cases the outcome of concurrent pathological conditions affecting the coronary arteries, myocardium, or pericardium, it is most frequently a pure neurosis, which, as the result of prolonged or repeated attacks, is itself the cause of dilatation and functional disease of the heart.

Finally, I find that in arriving at this conclusion I practically accord with the pathological views of Herringham, who states that this localisation in the heart itself of any lesion that may exist is rendered probable from another point of view; viz., that of cases in which any original exciting cause is at all definite, such as running, going upstairs, stooping, lifting a heavy box, the cause is one which is likely to entail intracardiac pressure which might affect the intracardiac ganglia.

Treatment.—The results of treatment, on the whole, are eminently unsatisfactory in controlling or arresting the actual attacks. I have already remarked that in my severe case the only drug that in any way seemed to benefit the patient was digitalis, and that in the other case digitalis had given good results. Bouveret states that digitalis has proved of only moderate value. Œttinger keeping his patient in bed, found the pulse improved and the quantity of urine increased under digitalis; but Pye-Smith[1] has found digitalis and strophanthus "most disappointing in these cases. Absolute confinement to bed in the recumbent posture for a length of time led to slowing of the pulse, and often to complete cure." Yet my own experience and a consideration of recorded views of others tend to the conviction that although digitalis has but a limited action in controlling or aborting the actual attacks, it is the most useful drug for improving the circulation in the intervals between the severe and prolonged attacks. When the mitral valve has become incompetent from secondary dilatation of the heart, when the urine is deficient in quantity and albuminuria has occurred, when anasarca supervenes and the respiratory functions are embarrassed, then we shall find that digitalis in

[1] *Brit. M. J.*, 1891, ii. 1312.

some form affords the best chance of restoring the failing circulation, and improving the action of the heart generally.

Some have given morphine with advantage; at least, it sometimes calms the patient without cutting short the attacks. Oliver considered he had cured his patient with belladonna.

Caffeine, nitrite of amyl, and nitro-glycerine have been tried with no result. Sometimes a strong dose of brandy or whisky stops an attack, and in Nothnagel's case the attacks were arrested by deep inspiration.

In several cases faradisation of the vagi has been tried, and failed to have any effect; but pressure on the vagi in the neck, and in one case compression of the thorax, would stop the attacks. These procedures have been tried in other cases, however, and failed.

It is important to attend to the general health, and especially to rectify any gastric disorder; anæmia should be treated with iron and general tonics. Tea, coffee, smoking, undue exertion or excitement, and anything which tends to excite the nervous system, should be carefully avoided.

PARALYSIS OF THE RESPIRATORY CENTRE FROM INTRACRANIAL PRESSURE.[1]

BY

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My object in this paper is to draw renewed attention to a mode in which death is sometimes, if not frequently, produced, when intracranial pressure is increased; viz., by paralysis of the respiratory centre in the medulla. For this purpose I record two cases in which death was produced by such paralysis, and refer to other published examples of it, and to the work of experimental physiologists which elucidates its origin. The two cases are both of extradural hemorrhage due to head injuries.

[1] Read at the April Meeting of the Bristol Medico-Chirurgical Society.

CASE 1.—The patient was a boy of ten years of age. He was admitted to the Bristol General Hospital two hours after having fallen upon his head from a first-floor window. There was not a history of immediate loss of consciousness, and on admission consciousness was complete, though the patient was somewhat drowsy. A little later he vomited. No external evidence of injury could be made out. He was kept in bed. Forty-two hours after admission respiration suddenly ceased. This occurred at ten o'clock in the morning. He had been restless all the preceding night. That was the second night after admission. He had also failed to recognise his friends during that period. Before the final cessation of breathing the Ward Sister had observed him to be breathing heavily. I saw him a minute or two later. He was then very livid, but the heart was beating regularly, producing a good radial pulse. Artificial respiration was begun at once, and for seven hours was continually kept up by relays of assistants. Throughout this period no spontaneous effort to breathe was made, but until the last two hours the heart did not flag. Towards the end the beats gradually became weaker. The respiration was stopped when the heart ceased its action. In addition to artificial respiration numerous ether injections were made, and oxygen given. The latter had the effect of dispelling a slight lividity which the artificial respiration did not completely abolish. This persistent lividity quickly increased whenever the artificial respiration was stopped a few seconds.

A necropsy was made the following day. The brain was found to be ecchymosed on the inferior surface of the frontal lobes. The left lateral lobe of the cerebellum was much flattened posteriorly. There was an extradural collection of blood in the left cerebellar fossa, extending from the foramen magnum upwards to a level half an inch above that of the groove for the lateral sinus and from the internal occipital crest outwards about two and a half inches. A fissured fracture extended downwards to the foramen magnum from a point half an inch above the groove for the left lateral sinus and half an inch to the left of the middle line. The flattening of the cerebellum was obviously produced by the displacement forwards of the dura lining the cerebellar fossa and of that forming the lateral sinus.

CASE 2.—This patient was a male child, two years of age, and was admitted to the Hospital at one o'clock p.m., soon after a fall upon the head from a first-floor window. There was no scalp wound, but each parietal and temporal region was greatly swollen. The symmetrical swellings gave the head a very curious appearance. They were soft and boggy to palpation. The patient was very incompletely conscious and very pallid. He lay for the most part still and quiet, but movements of each limb were made in response to cutaneous irritation. The pupils were equal and rather wide. They acted sluggishly to light. Vomiting occurred two or three times in the first two hours after admission.

No hemorrhage from the ears. The pulse was 120; respiration normal. Two hours later the patient responded less to stimuli. The left pupil was perhaps a shade larger than the right. The right arm and leg were moved fairly briskly on stimulation, but the left hardly at all. Soon after six p.m., *i.e.* rather over five hours after admission, respiration suddenly ceased, and cyanosis became marked. Artificial respiration was begun at once, as the heart was beating regularly and yielding a fair radial pulse. I had not an opportunity of seeing the patient between three and half-past nine. At ten o'clock, *i.e.* three and a half hours after the cessation of respiration, I removed, by

trephining, two discs of bone from the right side of the skull. The first disc was over the anterior branch of the middle meningeal artery. The dura here seemed very tense, and was incised, but the brain did not bulge out. I attribute this to the small size of the aperture and the viscosity of the brain. The posterior disc was divided vertically by a fissured fracture of the skull. Through the uppermost exposed part of the fissured fracture a flake or two of brain substance had exuded. No removable source of pressure was discovered through either aperture.

The heart at the end of the operation was acting as strongly as at the beginning. Artificial respiration was kept up, as well as possible, during the operation, and for two hours longer. The artificial respiration was continued until the heart's action ceased, which was six hours and ten minutes after the onset of the paralysis of the respiratory centre. During the last hours of life transient systolic cardiac bruits were frequently heard.

The reason I trephined on the right side rather than on the left, was that in my earlier observations there was a much weaker response of the left limbs to stimuli than of the right.

Post-mortem examination showed that if the other side had been chosen the pressure might have been much more effectually relieved. It was found that the fracture on the right side of the skull passed down and forward from near the parietal eminence to end in the right cerebellar fossa. On the left side there was a tri-radiate fissured fracture a little below and in front of the parietal eminence. Beneath this latter fracture there was an extradural collection of blood-clot. The lower part of the clot was beneath the squamous part of the temporal bone. The clot did not extend to the base of the cerebral hemisphere nor to the sphenoidal fissure in front. The left cerebral hemisphere had a saucer-like depression corresponding in area to that of the subjacent blood-clot. A ruptured branch of the posterior division of the middle meningeal artery was found, and was probably the source of the bleeding. The outer layers of the dura were torn, and the tear crossed the arterial twig mentioned. There was laceration of the cortex of the right hemisphere, the area affected being that beneath the fracture on this side. This was chiefly the angular gyrus. There was no lesion of the brain or membranes below the level of the tentorium.

It is obvious that the two cases recorded died from paralysis of the respiratory centre. This mode of death, in cases of increased intracranial pressure, is well known to many, but it has not received the general attention it deserves. There are but few recorded cases as striking as those just related. The probable reason for this is that the cases have been considered so hopeless, for the most part, that the experiment of maintaining artificial respiration for more than a few minutes has not been performed. It is very important from a practical point of view to recognise this effect of pressure on the brain, for in some cases a rapid relief of the pressure by a suitable operation will prolong life.

The following are some of the most interesting cases that have been recorded. In the *London Hospital Reports* for 1867

J. Hutchinson describes the death of a patient from meningeal hemorrhage, as follows:—"Several times his respiration entirely ceased for two or three minutes. . . . This went on for about ten minutes, when his respiration again ceased and never afterwards returned. His pulse could be felt for fully five minutes after his last respiration."

In Fagge's *Medicine* there is related a case of cerebral abscess, in which respiration suddenly ceased and the heart continued to beat for ten minutes, artificial respiration being maintained; and again, in the same book, in the chapter on cerebral tumours, occurs the following passage:—"The mode of death is often by cessation of *breathing*, the heart continuing to beat for some little time; in one instance it went on for thirty-five minutes, while artificial respiration was vigorously kept up." Mr. Horsley mentions four cases he had met with, all of them being cases of tumour of the brain. In three of these the respiration ceased suddenly as the operation of trephining was being proceeded with, and in these the operation was quickly completed and tension relieved, when the power to breathe naturally returned. Mr. Horsley writes:—"Cases of cerebral hæmorrhage, of cerebral tumour, and of depressed fracture, as well as cases of sudden and violent concussion, especially when applied in the occipital region, die from failure of respiration, and not, as is so often surmised, from failure of the heart."[1] Mr. Horsley also maintains that in those cases in which persons have been described as suddenly falling down dead, in consequence of violent blows on the head, *e.g.* from a fist or cricket ball, or from an explosion, the fatal ending has resulted from respiratory paralysis, and might in some of them have been avoided by performing artificial respiration.

Macewen[2] refers to two cases of respiratory paralysis. In one of these the heart continued to beat regularly for twenty-four hours after natural respiration had ceased. The source of pressure was a cerebellar abscess. Mr. Jalland,[3] of York, relates a case in which the breathing ceased when trephining was

[1] *Quart. M. J.*, 1894, ii. 305.

[2] *Pyogenic Infective Diseases of the Brain and Spinal Cord*, 1893, p. 321.

[3] *Lancet*, 1892, i. 527.

being proceeded with, and was not restored until pus was evacuated from a cerebral abscess. Another abscess case, where the heart continued beating for six hours, is reported from the Liverpool Royal Infirmary.[1] Drs. Sawkins and Vallack, of Sydney, give[2] notes of six cases of respiratory paralysis, all ultimately fatal. Two of their cases were of basal meningitis, with internal hydrocephalus; the other four respectively of intra-ventricular hemorrhage, cerebral hydatids, cerebellar tumour, and malignant tumour of the base of the skull; the length of time during which the heart continued to beat varied from ten minutes to two hours.

The effects upon the functions of the brain of increasing intracranial pressure have been investigated by physiologists from early times, and the accounts given by different workers are essentially the same. Among recent workers in this field have been Horsley and Spencer, and Leonard Hill. Spencer and Horsley produced the pressure by means of a rubber bag attached to a steel tube, screwed into the skull, and externally connected to a mercurial burette, by which the rubber bag could be distended to a known degree. They introduced the bag into the fourth ventricle, in the upper part, and by moderate pressure stimulated the vagal and the vaso-motor centres, slowing the heart and raising the blood-pressure. When the bag was placed lower, upon the upper end of the cervical cord, compression produced sometimes arrest of respiration alone. They found that to arrest respiration and circulation by distension of the bag the least quantity of fluid was required when the bag was over the bulb, most when over the cerebrum, and an intermediate quantity when over the cerebellum. This is in accordance with pathological experience, for a smaller cerebellar than cerebral lesion will produce fatal compression. The culminating symptoms and fatal results of increased intracranial pressure appear to be due, not to paralysis of the vital centres by direct pressure, but to the anæmia of the bulb which is induced. Leonard Hill states that if anæmia of the mid-brain and medulla be produced experimentally, either by ligature of the carotids and vertebrals, or in any way, first spasm of the vaso-motor,

[1] *Brit. M. J.*, 1893, i. 1197. [2] *Lancet*, 1895, ii. 517.

vagus, and respiratory centres is produced, causing rise of blood pressure, slow heart, and respiratory spasm; and later the same centres become paralysed, causing failure of circulation and respiration. Generally the primary cause of death is respiratory failure. "If this be compensated for by artificial respiration the heart continues to beat, and then the vaso-motor paralysis which ensues may be a secondary cause of death. . . . In some rare cases vaso-motor paralysis may be the primary cause of death."[1]

The symptoms and causes of death in cerebral compression are the same as those in cerebral anæmia, and in compression the culminating symptoms, the respiratory and circulatory failure, are produced by the arrest or diminution of the bulbar circulation, which the pressure induces. The earlier symptoms are excitatory, the later paralytic. Clinically we are familiar with this sequence. An extradural hemorrhage, for example, may first slow the heart, raise the pulse-tension, and cause deep and heavy breathing, and then secondarily paralyse respiration, lower vascular tension, and accelerate the heart's action.

Paralysis of respiration in cases of sudden concussion, or produced by bullet-wounds of the brain, which Mr. Horsley has experimentally shown to frequently occur, is perhaps not so satisfactorily explained by the theory of bulbar anæmia, for respiratory paralysis is a later symptom of such anæmia. The explosive violence, as it is termed, of the bullet rapidly moving through the viscous brain-substance, causes wide-spread injury, and damages the respiratory centre more than the other vital centres by reason of some special vulnerability of that centre, not yet capable of explanation.

To effectually relieve intracranial pressure by trephining, a considerable area of skull must usually be removed.

I am indebted to Mr. W. J. Penny and Dr. R. G. P. Lansdown for permission to publish notes of Cases 1 and 2.

In the discussion on this paper Dr. WATSON WILLIAMS said it would be interesting to know if there had been any marked departure from the normal pulse-rate, either in the direction of bradycardia or tachy-

[1] *The Physiology and Pathology of the Cerebral Circulation*, 1896, p. 125.

cardia.—Dr. H. WALDO had observed some cases reported of lightning stroke where recovery ensued after prolonged artificial respiration.—Dr. THEODORE FISHER mentioned that if looked for, this mode of death would probably be found to occur rather frequently. He had seen the respiration gradually fail and eventually cease some ten minutes before the pulse, in a case of death from cerebral tumour.—The PRESIDENT drew attention to the condition in newly-born children, where, although the heart beats, yet respiration cannot be established, this being due to some injury to the respiratory centre.—Dr. MARTIN RANDALL referred to two cases of cessation of respiration of the kind Dr. Firth described: one due to hemorrhage from ruptured aneurysm of basilar artery where artificial respiration was kept up for four hours; and another of cerebral tumour in which artificial respiration was kept up, the heart beating for some hours.—Dr. WALTER SWAYNE mentioned a *post-mortem* examination on a child delivered by version for transverse presentation in a contracted pelvis. On opening the head, in the bones of which there was a deep depression, a large clot was found underneath the dura mater. The heart continued to beat after delivery, but no efforts could induce the child to breathe.—Mr. S. H. SWAYNE many years ago was called to a tall, stout youth of 17, who, when at supper after rapid walking, suddenly fell forward insensible, and when Mr. Swayne came the patient had apparently ceased to breathe. Mr. Swayne used artificial respiration and venesection, with the effect of improving the heart-beat greatly, but there was no attempt at natural breathing. After more than two hours the pulsation gradually ceased. At the *post-mortem* examination a large clot of blood was found filling the ventricles of the brain.—Dr. FIRTH, in reply, stated that, after the onset of the paralysis, there had been no marked deviation from the normal pulse-rate.

TWO CASES OF ABDOMINAL SECTION.

BY

J. RAGLAN THOMAS, M.D. Lond., M.R.C.S. Eng.

THE following cases seem to possess special features of sufficient interest to justify one in placing them on record.

Large dermoid ovarian cyst: base surrounding uterus.

A married lady, aged 47, who had never been pregnant, had, two years ago, menorrhagia suddenly at one period only. A firm rounded tumour, feeling like a fibroid, could be felt reaching to about an inch above the pubes, slightly towards the right side. This had never been observed previously by the patient. Six months later catamenia ceased. No vaginal examination was allowed, and the case was lost sight of until lately. When seen again, towards end of 1896, the tumour had increased enormously. There had been no pain; but the

growth was causing inconvenience and discomfort from its size. In February it reached nearly to the costal arch, was extremely tense, and fluctuation could be felt in front, and from the front to finger within vagina. The flanks outside the tumour were quite resonant. The skin moved over it slightly, and the mass could be pushed a little from side to side, but appeared to have a wide firm attachment within the pelvis. The uterus was normal in size and position, and fairly movable. To the left of this organ, in the ovarian region, could be felt a firm rounded mass, apparently attached to the tumour, with which it moved, whereas the uterus moved independently of it. This was taken to be the pedicle of the growth, which, it was thought, might probably be held down in the pelvis by adhesions.

In consequence of rapid increase towards the left hypochondrium, and great tenseness, operation, previously advised, was urged as imperatively necessary. This was performed by me in the ordinary way on March 4th, 1897. The walls of the cyst were thick and fleshy, except in front, where they were much stretched and thinned. About twelve pints of dirty cream-coloured fluid were drawn off, and the cyst, which contained also large balls of hair, teeth, and other dermoid material, was delivered, having no adhesions. It was then found that the base completely surrounded the uterus, the outlines of which could not be defined from within the peritoneal cavity. The right ovary and tube could not be distinguished. Those organs on the left side, much enlarged, with masses of glands, formed a long sausage-shaped roll, about 1 in. in diameter, attached to the side of the tumour and to the pelvic wall. This had been mistaken for the pedicle, which now was obviously more connected with the opposite side and with the whole of the uterus. The greater part of the walls were cut away, and the remainder of the cyst shelled out. It had been apparently divided by septa which had broken down. A small abscess, to the left of the base, was cleared of its viscid contents, and, as far as possible, cut and scraped away. The enlarged left ovary, tube, and glands were ligatured and removed. The stump, which, by its folds, had still a large peritoneal surface, was carefully stitched into the lower angle of the wound, leaving the raw surfaces exposed. After irrigation, a glass drainage tube was inserted, and the rest of the abdominal wound closed.

The patient did well, the temperature ranging from 97.4° to 99.4° for the first fortnight. Then some slight trouble arose at the site of the old abscess-cavity referred to, which was drained and syringed daily. This closed within a week, and the patient is now well, and able to walk out of doors.

Removal of ovaries and uterine appendages for early cystic disease, &c.

A married lady, 37, had one child, nine years ago, whom she nursed six weeks. Four months later she began to feel ill with pain in the back, and leucorrhœa. Two years afterwards curetting was done with temporary benefit. Three years ago she began to notice swelling and pain in left ovarian region after nearly every period, usually culminating about ten days later, when "something seemed to give way," with a discharge of fluid *per vaginam*, sometimes clear, at others yellowish. Menstruation about every three weeks. Consequently she

had to lie on a sofa or in bed half her time, and from leading a very active useful life, was gradually becoming a chronic invalid. She described her life as miserable, and said she would rather die than live thus.

A few days after the period a fulness could be detected, tender and and painful, in the left ovarian region. *Per vaginam* a lump, very tender to pressure, could be felt, behind the normal position of the ovary. Through the rectum this felt like an enlarged ovary, displaced backwards and adherent. The swelling varied considerably in size at different visits. On one of these, about the tenth day, it was so considerable that it seemed to occupy the greater part of the space to the left of the uterus, which was now fixed and somewhat pushed over. Next day, a discharge having meanwhile occurred, I found the uterus quite movable, and in normal position; but, unfortunately, I was never allowed to see the discharge. There was slight fulness and tenderness in the normal position of the right ovary. The sound passed 2½ in.

The patient was most anxious to risk operation in the hope of being cured, notwithstanding that an eminent London specialist had declined to advise it. After careful observation, and not without a fear of finding extensive adhesions deep in the pelvis, I recommended the operation, which I did on February 10th, 1897. This proved easier than I had expected. The adhesions found were not extensive, and the left ovary was easily separated and removed. It was considerably enlarged, and containcd several cysts, varying from ¾ in. diameter to ¼ in. The Fallopian tube was not dilated, as I had expected, but had several thin-walled cysts of various sizes attached to it by pedicles of various lengths. The right ovary, though in normal position, was almost as large and similarly diseased. With a view to secure the best prospect of permanent cure, the tubes on both sides were removed with the ovaries.

The patient made a rapid recovery, her temperature not exceeding 99°. She feels quite well, and has been free from pain, though four menstrual periods would have occurred meanwhile.

Dr. Kanthack, of St. Bartholomew's Hospital, kindly cut sections of the organs for me, and reported "numerous cysts, some large, some small, lined by epithelium varying from flattened to columnar. Ovary highly vascular. Nothing malignant. Probably early cystic disease of ovary."

Having had a large number of these most difficult cases under my care at different times, I have been much impressed with the necessity for the greatest care in regard to their diagnosis and treatment. I have seen on the one hand healthy ovaries removed, without relief of symptoms, and on the other useful lives become more and more hopelessly invalid and bedridden, in ever-recurring pain and sickness—a truly miserable existence—where operation in time might probably have effected a complete cure.

A CASE OF ACUTE MILIARY TUBERCULOSIS

TREATED WITH ANTISTREPTOCOCCIC SERUM ON ACCOUNT OF THE PRESENCE IN THE BLOOD OF THE STREPTOCOCCUS PYOGENES ALBUS.[1]

BY

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THE points of interest in this case lie not only in the presence of S. pyogenes albus in the blood of a patient with acute miliary tuberculosis, but also in the clinical resemblance to ulcerative endocarditis.

G. J., aged 20, a labourer, was admitted on October 5th, 1896, complaining of pains in the abdomen, chiefly on the right side in the iliac region, of pains in the back, and also occasionally of pains in the penis when making water. He had also a slight cough. The pains prevented him from working; he attended as an out-patient for a short time, and as he was found to have some fever, and the pains did not improve under treatment, he was admitted.

The family history was good, and there was no evidence of tuberculosis. In March, 1896, he contracted enteric fever, and was laid up for two months; otherwise he had always been perfectly healthy.

On admission, he was well nourished: slightly dusky in aspect. He appeared weak; his temperature was 101°; pulse-rate, 112; respiration-rate, 28; tougue somewhat furred; bowels constipated. The chest was well formed and expanded well. There was a little deficient resonance, harshness of breath-sounds, and increased vocal resonance at the right apex: and over the left lung in front a few moist sounds were occasionally heard. The heart was not enlarged, and there was no murmur at this time: the sounds were loud. The area of splenic dulness was somewhat increased in size. The urine contained no sugar or albumen: it was acid: sp. gr., 1015. There was a chronic ulcer on the outer side of the right heel.

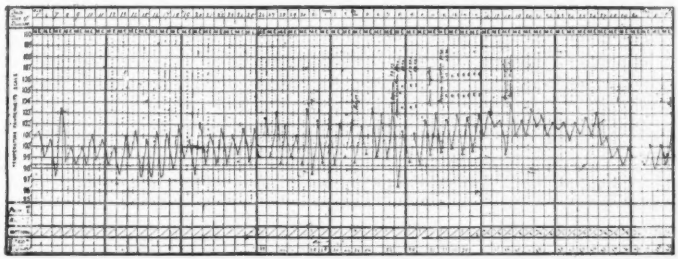
From October 5th–24th the temperature followed a marked hectic type, ranging from normal or below normal in the morning, to 102°–103° in the evening: the patient was dull, weak, listless, apathetic, and slept badly at night; his appetite was bad; the bowels were constipated, he complained of abdominal pain after they were moved; the pulse varied from 100-120; no fresh physical signs were detected in the lungs on examination. At the latter date the left ventricle of the heart was found to be somewhat dilated, and a loud blowing systolic murmur was audible over the pulmonary area. In the abdomen there was tenderness to the right of the umbilicus, with some rigidity of the abdominal

[1] Read at the April Meeting of the Bristol Medico-Chirurgical Society.

wall here, and a feeling of matting together of the abdominal contents. The patient was obviously losing flesh.

During the night of October 30th he had a series of rigors, in which the temperature rose to 103.5°. Next day, October 31st, he was very weak: pulse was 124, soft and compressible; respiration 44, shallow. The splenic dulness showed a further increase, and he complained of pain in that region. The urine contained no sugar or albumen, and it may be here mentioned that throughout the illness it gave no reaction to Ehrlich's test. There was no optic neuritis; there were no tubercles in the choroid; no retinal hemorrhages. Blood-films, stained by Gram's method and with methylene blue, showed no micro-organisms; but a drop of blood obtained from the finger with the strictest aseptic precautions, when inoculated on to Agar-Agar with a sterilised platinum needle, gave a pure cultivation of the Streptococcus pyogenes albus. During the next few days the condition remained much the same; some scattered crepitations were heard over the base of the left lung, the murmur over the pulmonary area was louder, and also heard over the aortic orifice with a loud second sound; the murmur was badly conducted upwards; the first sound at the apex was very loud and rough; marked pulsation was felt in the second and third spaces to the left of the sternum.

On November 4th the patient had another rigor, and a second tube inoculated from the blood with the same precautions, again gave a pure culture of S. pyogenes albus. On November 6th treatment by injection of antistreptococcic serum from the British Institute of Preventive Medicine was begun: five injections of 10 c.c. each were administered before November 10th, without any noticeable effect on the temperature, which was taken hourly. The injections were made into the flanks and gluteal regions, and gave rise to considerable pain; probably owing to this cause, the pulse was somewhat—about ten beats per minute—accelerated after them. Between November 6th and 18th, fourteen injections of serum were given: on the 10th, 16th and 17th, no injections were administered, on account of the patient complaining so much of the pain caused by them; on the other days 10 c.c. were given morning and evening. On three or four occasions the temperature fell two or three degrees after an injection, on the others no effect on the temperature could be traced, and on account of the great irregularity of the temperature during the whole course of the illness, it is not probable



that the fall of temperature when it occurred had any causal connection with the injection. The sites of injection were the seat of a vivid erythematous blush for some distance around the puncture, which

lasted for from a few hours to a day or two, and in several instances of swelling and hardness in the subcutaneous tissues, which were intensely tender to the touch. No effect, other than the acceleration of pulse above-mentioned, and probably due to pain caused by the injection, were noticed on the pulse, respiration, or condition of the urine. The injections gave rise to great pain, making the patient very uncomfortable for hours afterwards, and on this account on November 19th he refused to submit to any more of them. On November 12th, a loud systolic murmur appeared at the apex, and after persisting for two or three weeks, died away again. About this time he complained one day of great pain in the splenic region, and the spleen was found to be further enlarged. On November 14th the patient for a short time appeared much brighter and better, but by the 16th was again as bad as ever.

A few days after the serum treatment was discontinued the blood was again examined for micro-organisms, but this time without any result. The progress of the disease continued unchecked throughout, the patient wasted rapidly and became steadily weaker; he suffered no further pain. Physical examination detected some deficient resonance, and scattered crepitant râles over the bases of the lungs posteriorly. No further signs were heard at the apices of the lungs. The pulmonary murmur remained loud and the spleen enlarged. The abdomen was somewhat distended. There was no albuminuria. On November 18th he brought up a little blood-stained mucus, which contained no tubercle bacilli.

On November 26th, without any improvement in the general condition, which grew steadily worse, the temperature fell and maintained a lower range, the highest point in the twenty-four hours being 100° instead of 102°–103°, until the day of his death, when it rose to 103.° Quiet delirium came on, with some drowsiness, together with increasing weakness; there was tremor of the limbs, with constant plucking at the bedclothes. He gradually sank and died on December 3rd.

P.M.E.—The heart weighed 9 oz.; its cavities were dilated, and the muscle flabby, but looked healthy: there was no endocarditis, the valve segments were normal, and the pulmonary and aortic valves held water. The pericardium was normal. The lungs, liver, spleen, kidneys, pleuræ, and mesentery were found to be thickly studded with innumerable grey miliary tubercles. The lungs were everywhere crepitant, their bases congested, and in the upper lobe of the left lung were a few very small patches of broncho-pneumonia. Over the base of the brain, the bulb and cerebellum, there was an exudation of lymph, in which miliary tubercles were seen. There were no old tubercular lesions or masses in the lungs or other organs, and no caseated glands were anywhere discovered. Scattered follicular ulcers were found in the lower part of the small intestine, which was presumably the source of infection by the bacillus tuberculosis. On microscopical examination of sections of the lungs, spleen, and kidneys, stained by gram's method and by methylene blue, no streptococci or staphylococci were found.

The S. pyogenes albus was found in a pure culture in the blood on two occasions, every precaution being taken to ensure sterilisation of the finger, &c.; attempts were also made to obtain a cultivation of the tubercle bacillus from the blood, but without success. I am indebted to Mr. F. W. Stoddart for his kindness in making the cultivations. The streptococcus

was found to have disappeared from the blood after the treatment by the antistreptococcic serum. The local lesions produced by the injections have been described above; no abscesses were produced: an addition of liq. morphinæ ♏v. to the injection was made on two or three occasions, and appeared to mitigate the pain to some extent.

Clinically the diagnosis between ulcerative endocarditis and acute miliary tuberculosis was difficult. After hesitating for a time, the discovery of streptococcus in the blood made me incline to the former diagnosis. In favour of ulcerative endocarditis, in addition to the presence of the streptococcus, were the absence of any family tendency to tuberculosis or of previous tubercular affection in the patient, the shortly antecedent attack of enteric fever, the appearance and disappearance during the course of the illness of cardiac murmurs, and the fact that a very loud rough murmur, unlike a hæmic murmur in character, was heard over the pulmonary area, the occurrence of rigors, the sudden attack of pain over the enlarged spleen suggesting an infarct in this organ, whilst the chief signs of lung affection might from their position be attributed to hypostatic congestion.

In the discussion which followed the report of this case Dr. THEODORE FISHER referred to the well-known fact that streptococcal infection of the lungs frequently accompanied tubercular disease, and mentioned also that it was not so very uncommon for the heart to be also attacked. He had seen a case in the Bristol General Hospital in which during life there was some doubt as to whether the patient was suffering from malignant endocarditis or from acute tubercular disease of the lungs. At the *post-mortem* examination both diseases were found to be present. Dr. SHINGLETON SMITH alluded to a case of pemphigus foliaceus with continuous pyrexia and indications of a general septic condition, in which antistreptococcic serum had been used; the result was so far undecided, but in spite of much general suppurative cellulitis the pyrexia was now abating, and the condition of the skin had much improved.—Dr. WATSON WILLIAMS said that in one case of his the temperature, which had been ranging high, rose to 107° after an injection, and if the rise could be rightly attributed to the serum, it would make one chary in some cases.—Mr. C. A. MORTON said that he had employed antistreptococcic serum in one case of pyæmia, and although it did not bring down the temperature, yet no rise occurred after its injection.

A CASE OF RUPTURED TUBAL PREGNANCY.[1]

BY

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FOR centuries tubal pregnancy was considered one of Nature's rarest freaks, and practitioners of the old school say now, "How is it that we never met with such a case?" I am constantly assailed with some such remark as this, as though it were really possible to make a mistake in the diagnosis. Since March, 1883, when Lawson Tait performed his first successful operation on a case of ruptured tubal pregnancy, examples of this condition have been noticed so frequently that the literature of reported cases is most voluminous. We now know that it is a comparatively frequent condition, and that every gynæcologist in active practice must meet with several cases in the course of every year.

We now can better recognise this condition, and many of the deaths formerly put down to idiopathic peritonitis and hæmatocele were really deaths from ruptured tubal pregnancy. The causation of this trouble is now generally admitted to be some lesion or other of the tube causing an obstruction to the passage of the ovum. With the exception of Bland Sutton and one or two others, this is freely admitted, and it is quite the easiest explanation of the condition. It may occur at any age, in the first pregnancy a few months after marriage, or it may happen in a woman who has borne several children; the only condition necessary to precede it is some mischief in one or other of the tubes.

Now from the time an impregnation occurs in a Fallopian tube until that tube is removed, the patient is never free from danger. Hence, directly the diagnosis is made, the abdominal cavity should be opened and the whole thing removed. During the period prior to rupture, the operation is one of the simplest

[1] Read at the March Meeting of the Bristol Medico-Chirurgical Society.

in abdominal surgery, and in the hands of a skilled operator the mortality should be *nil;* in the second case, where rupture has taken place, the only chance for the patient is operation, and this should be performed at the earliest possible moment.

The following case well illustrates the importance of early operation:—

E. L., 27, was married at the age of 19, and had her first child before she was 20; since then she has had four children, and one miscarriage between the second and third children. The last child was born on September 3rd, 1896. There is a probable history of gonorrhœa after the birth of the first child; at any rate, there was a profuse yellow discharge, accompanied by swelling of the vulva and painful micturition.

In November patient had her ordinary period, and was apparently quite well until December 24th (no period in December). On December 24th she had acute abdominal pain and fainted, and from this date up to February 1st she remained in bed at home, and on the average she fainted three times a week, occasionally being suddenly seized with the pain in the night.

She states that the pain seized her on February 1st, at 8 a.m., just as the bowels were acting; she fainted and became very blanched, and Mr. Perry, the Medical Officer of the Clifton Dispensary, immediately brought her up to me at the Hospital.

On admission patient was extremely blanched, with a quick running pulse of 130. The abdomen was very rigid, but absolutely nothing could be felt, and *per vaginam* there was only an indistinct sense of resistance in the pouch of Douglas. There was no uterine discharge at all, nor had there been any.

At 11.30, or only three and a half hours after the fainting attack, I opened the abdomen in the middle line: on incising the peritoneum a great gush of blood took place, and it was evident that active hemorrhage was still proceeding. I ran my fingers quickly down on to the left tube, and passed over them a large pair of catch forceps and firmly clamped the left tube: active hemorrhage then ceased. On pulling up the left tube to the surface the rupture was easily seen, and the mass with the placenta was easily detached from the omentum and pulled out of the wound, but the fœtus was not to be seen. On exploring with the finger again a rounded mass was felt, lower down behind the pubes: on bringing this to the surface it was found to be the fœtus (probably about the ninth or tenth week) coiled up in a fold of the omentum; this was quickly released and extracted. The tube was then transfixed close to the uterus, and ligatured and removed, also a piece of omentum which appeared somewhat damaged. The operation had so far only taken twelve minutes, but now it was found that the whole pelvis was full of clot and fluid dark blood: this was gradually washed out with hot boracic lotion by means of a long glass tube carried down into the pouch of Douglas, and everywhere amongst the intestines; and there was such a large quantity that it took another twenty minutes to thoroughly cleanse the peritoneal cavity. A large glass drainage tube was passed into Douglas's pouch and left there, and the edges of the wound brought together by three sutures.

There was considerable shock, and the pulse was very quick and feeble. Directly the patient was put to bed she had an enema of three

ounces of hot port wine. From this time she slowly recovered, and had no bad symptom. I removed the glass drainage tube on the third day. On the twenty-first day after the operation she was able to get up in the ward. She is now quite well.

The operation was clearly the only chance of saving the patient's life: but at the time it was thought that the chance of recovery was very small, on account of the enormous amount of clot and fluid blood in the peritoneal cavity.

After the reading of this paper, the PRESIDENT said that the important point in these cases is an early diagnosis; this requires a great amount of skill in vaginal examination, as it is very difficult to tell the exact nature of retro- or peri-uterine swellings. He had seen a woman seven weeks pregnant, who was suddenly seized with acute abdominal pain and faintness as a result of lifting a heavy cask. Vaginal examination revealed a large post-uterine swelling and an enlarged uterus; within twelve hours the os uteri dilated, and an ovum was recognised protruding through the internal os uteri. This clearly proved that the pregnancy was intra-uterine. The woman aborted. The post-uterine swelling was an ordinary hæmatocele and became absorbed. The President also mentioned other cases bearing on the subject.—Dr. WALTER SWAYNE drew attention to the fact that in these cases a definite history of pregnancy is often absent. He described the case of a lady who habitually suffered from dysmenorrhœa, and was seized at the time of her period with acute abdominal pain, leaving collapse and fainting. From this she recovered, to be seized a month later with a similar attack of much greater gravity, which ended in death. The most probable explanation of this was that the two attacks of pain were due to the primary and secondary rupture of a tubal gestation. A case with this history, and showing signs of collapse and hemorrhage, can often only be successfully dealt with by abdominal section, and the gravity of such symptoms should always be kept in view.

Progress of the Medical Sciences.

MEDICINE.

The causation of **cirrhosis of the liver**, its course and diagnosis, have been the subject of several interesting recent discussions, and certain new facts seem to have been arrived at by a closer investigation of the phenomena. In alcoholic cirrhosis, as Sir Dyce Duckworth[1] remarks, the malady is far from being a local one, for simultaneous changes affect almost every tissue of the body, and with the appearance of cirrhosis a gradual cachexia supervenes. If, indeed, the liver is not the weak point of the

[1] *Practitioner*, 1897, lviii. 235.

individual, failure may result in other organs long before there is time for the liver to be affected. Thus, in young women the nervous system is more vulnerable, and neuritis is a more frequent result of alcoholic poisoning in them. Besides the hypertrophic liver of non-alcoholic origin where there is much jaundice, Duckworth recognises two alcoholic forms of cirrhosis, the atrophic and hypertrophic, either of which may be part of the general systemic change produced by the habit.

A curious thing, however, is that **cirrhosis of the kidney,** though common enough by itself in alcoholic subjects, according to some authorities, is **not often associated with that of the liver.** Pitt[1] found that in eighty-nine cases of cirrhosis the kidneys weighed over ten ounces in thirty-eight of the number, and but eighteen showed granular disease; while Dickinson, in two series of 149 persons each, found that the number of granular kidneys was the same in liquor dealers and in apparently temperate persons. If we discredit the latter argument, still the comparatively rare coincidence of the two diseases, cirrhosis of the liver and that of the kidney, is remarkable, whether this arises from the small amount of alcohol excreted by the kidney, or because the organ which happens to be functionally stronger in an individual deals with the poison and shields the other, is uncertain. When the two are affected together, fatal coma may develop, as Levi has shown.

The question of the **mode of causation** then arises: Does alcohol act directly on the tissues of the liver, or does it inhibit some protective mechanism, so that they are exposed to the action of a toxin developed elsewhere in the body? Now, leaving on one side the hypertrophic forms of cirrhosis, both those of alcoholic and other origins, there are undoubtedly many cases of cirrhosis, indistinguishable from the true alcoholic ones, in which the disease is clearly due to a different irritant. It seems clear that certain cases in children, even in the newly born, are to be found where alcohol has never been administered; and, again, phosphorus and the syphilitic virus are equally able to produce the small cirrhosed liver under favourable conditions, without the presence of alcohol. In the kidney, again, gout, lead, and many other poisons, acting for a considerable period, are more frequent causes than alcohol. Finally, in animals, though cirrhosis is not unknown, especially in cats, it seems extremely difficult to bring it on, according to several observers, by the excessive and long-continued administration of alcohol. But, on the other hand, it is easy to induce the disease by infecting animals with pyogenic microbes, or their toxins. Charrin, Roger, and lastly Krawkow have shown this by numerous experiments. Krawkow[2] injected the microbes into the intestinal canal, and also noted similar results where chronic infection by septic

[1] *A System of Medicine*, edited by T. C. Allbutt, 1897, vol. ii., p. 861.
[2] *Arch. de Méd. expér. et d'Anat. path.*, 1896, viii. 106; abstract in *Brit. M. J.*, 1896, ii. Epitome, p. 80.

organisms had occurred, while amyloid degeneration followed the injection of these poisons into the muscles. These considerations lend some weight to the theory that the cirrhosis of drunkards is due to a secondary infection. By the constant abuse of alcohol, the stomach and intestines are in a chronic state of congestion, if not of ulceration, and no longer exert their protective and selective power, so that various toxins are absorbed, which attack the liver. If, too, it was a direct physical action of alcohol, we should hardly expect to find the absolute immunity from cirrhosis which is occasionally seen in some very hard drinkers, though we grant the varying degree of resistance in different individuals. Thus, Formad found it only in six cases out of 250 necropsies on confirmed drunkards. It may be said, however, that if alcohol is broken up in the body, the cirrhosis is produced by substances formed from it. Thus, Boix produced cirrhosis by the administration of lactic, acetic, butyric, and valerianic acids. But even if any of these are formed by the disintegration of alcohol, it is clear that they are often produced without it in ordinary dyspepsia. Douglas Stanley[1] gives an interesting account of these investigations. He discusses the effects of gastric disorders in producing diseases of the liver, and refers to the occurrence of hypertrophy in dilatation of the stomach, and in children affected with gastro-intestinal disease, as well as in some tubercular patients. Hayem is also quoted as holding that atrophic cirrhosis is coincident with chronic gastritis where hyperpepsia exists.

On the whole, there is a good deal of evidence that **atrophic cirrhosis can be produced by other causes than alcohol,** and that it even follows some acute fevers, as well as microbic infections and digestive disturbances, while in the common alcoholic form it is doubtful whether the change is due to the direct action of the drug on the epithelial cells or on the connective tissues, or, finally, to the results of the chronic dyspepsia set up by it. Stanley notices that animals in whom cirrhosis was set up by organic acids lived actually longer if alcohol was given at the same time.

Foxwell, Fenton, Rolleston, and Kelynack have recently given numerous statistics on the size, weight, and other **pathological details of the cirrhosed liver:** Kelynack[2] takes 121 cases, mostly alcoholic, though the distinction is not easy to make in hospital patients; while Rolleston and Fenton[3] give an analysis of 114. The forms of biliary and infantile cirrhosis are excluded from both series. Kelynack found that nearly fifty per cent. die directly from the liver disease, and over twelve per cent. from tuberculosis. Cirrhosis appeared most frequent in males, though fatal at an earlier date in women. The weight of the liver was on the average increased, while the size was diminished in two-thirds of the cases *post mortem*, though possibly many of these were

[1] *Birmingh. M. Rev.*, 1897, xli. 164. [2] *Ibid.*, 86.
[3] *Ibid.*, 1896, xl. 193.

enlarged during life. Renal cirrhosis occurred in only eighteen per cent. Fenton and Rolleston confirm his views as to the frequency of tubercular disease. They hold that the livers in cirrhosis are, on the average, much increased in weight, especially the alcoholic ones, whether these are due to beer or spirits; but where granular kidneys exist in addition, there is very little increase. In young women a large liver, with head symptoms and little ascites, is often found, while in older women ascites and a smaller liver are more frequent. Now, as Kerr points out,[1] most observers are agreed that both enlargement and diminution in weight and size may occur, but (1) some hold there are two distinct varieties, (2) others that a large liver may contract in later stages into a small one, and (3) some think that fatty degeneration is a more important result of alcoholism than cirrhosis. He himself accepts the last view. Do our statistics afford any answers to these questions? According to Rolleston it seems that the kind of alcohol used has no effect on the weight, and that the heavy liver is found more often earlier in life, while as age advances the weight diminishes. If we suppose that the alcoholic habit commenced at the same average age in both types, then the heavy liver represents a more rapidly fatal form than the light one, the patients dying about three years earlier. But it is possible that the heavy livers of arrested or latent cirrhosis found in persons killed by accidents may be due to regeneration or new growth of liver tissue. Finally, heavy and light livers do not differ in the amount of fatty changes, for these occur equally in both classes, and apparently quite as often from spirit drinking as from beer. Though Kelynack, who alone estimates the size as distinct from the weight, finds the size most often decreased *post mortem*, he confesses this is no guide to the size during life. A. Foxwell, in his papers[2] on "The Enlarged Cirrhotic Liver," shows from a large number of cases that an increase of size is the rule in life. After a drinking bout the liver enlarges as much as two or three inches in the twenty-four hours, which may afterwards disappear; and in the great majority of cases he finds that the liver of an alcoholic can be easily felt below the costal margin in the nipple line, even long after the habit has been given up. In sixty-seven cases the average width below the edge of the ribs was $1\frac{6}{11}$ inches, and in twenty-one others it was three inches. He confirms, too, Rolleston's statement that the increase of size in large livers is not due to fatty infiltration, which is contrary to the common doctrine of the text-books.

In view of the little value of most drugs in the **treatment of ascites** due to cirrhosis, the recommendation of urea as a diuretic in cases where the kidneys are intact is worth recording. Friedreich[3] and Klemperer have noticed an enormous increase of the urinary excretion after its administration. It may be

[1] *Med. Chron.*, 1895-96, N.S. iv. 225, 310. [2] *Birmingh. M. Rev.*, 1896, xxxix. 129, 215.
[3] *Orvosi hetil.*, 1896, xl. 41; see *Birmingh. M. Rev.*, 1896, xl. 308.

given in milk or as a powder with carbonate of soda and cinnamon. As much as twenty grammes in a day have thus been taken without ill effects, and it may be continued in daily doses of somewhat smaller amounts.

* * * *

Failure of the **stomach** to pass on the food, or **dilatation**, is so easily confused with other disorders that Pepper and Stengel's[1] discussion of its diagnosis will be welcome to many. In the first place, they point out that we ought to include under this heading those cases where the stomach fails to empty itself between meals, though there is no change in size of the organ. On the other hand, the variations in size and position of the stomach, while the motor activity is unimpaired, are so common that they are often mistaken for true dilatation. Thus another authority, Bial,[2] finds that dislocation of the stomach from its normal position is extremely frequent, with few or no gastric symptoms, in emphysema and deformed chests; while tight lacing, repeated pregnancies, a bulky diet, and other causes may enlarge the stomach or alter its situation to a marked degree. Pepper notices that the capacity of apparently normal stomachs may vary between 500 and 2,600 cub. centimetres, and possibly more. He would take account, however, both of the size and motor power, for there may be a compensatory increase of the latter in some enlarged stomachs for a time, which may break down eventually, just as we see in similar affections of the heart. Furthermore, he finds that the size is best determined by auscultatory percussion, the bell of the stethoscope being held by the patient over the stomach-area, and percussion being made in lines radiating from that point. A stomach-tube is then passed, and air injected into the organ by an ordinary syringe, so that it is distended and that the size may be clearly mapped out. Finally, to determine the motor failure, a test meal of meat soup and bread is given and the contents withdrawn more than seven hours afterwards. If there is dilatation part of the meal can be found in the organ for a long period beyond the seven hours, and leads to sour and fœtid vomiting, an evening meal often remaining in the stomach till the morning. In this way we can diagnose the disease from megalo-gastria, gastrectasis and gastroptosis, as well as from chronic gastric catarrh. Among the great variety of means proposed in late years these seem to be the simplest and best adapted to the purpose. Inspection, simple percussion, and the splashing sound may give us some idea of the conditions, but are very liable to error, while trans-illumination even if trustworthy requires skill and complicated instruments.

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We seem to have learned nothing as to the poisons which

[1] *Am. J. M. Sc.*, 1897, cxiii. 34.

[2] *Berl. klin. Wchnschr.*, 1896, xxxiii. 1107; abstract in *Brit. M. J.*, 1897, i. Epitome, p. 17.

cause **uræmia**, except that they are many, and some are proteids. Urea, carbonate of ammonia, potash salts, and ptomaines have each been invoked in turn. Nor are we certain how the real poisons act; how, for instance, the localised symptoms and more or less transient paralyses are produced. The theory that œdema of the brain causes them is unsupported by facts, and if it exists, œdema certainly often exists nowhere else in the body. Vascular spasm and cerebral anæmia are contradicted by Leonard Hill's researches on the cerebral circulation. He showed that nothing like vaso-motor action occurs in that area. In place of contraction and relaxation of the vessels, the blood-supply seems to be regulated by changes in the splanchnic and other areas. Bradford[1] would refer the convulsions and paralyses to a direct action of the toxins on the nerve centres, some of which happen to be more irritable than others. The very diagnosis of uræmic convulsions from those caused by meningitis is at times impossible. Every focal and general sign, says A. R. Edwards,[2] known to occur in the latter has been observed also in the former. Albumen and casts may be absent, and even the amount of urea and urine may be normal at the time.

In **treatment** one of the most promising methods seems to be that of the injection of artificial serum combined with bleeding, or as Barré terms it[3] "disintoxication of the blood." Simple injection of serum into the tissues or rectum is not satisfactory when the kidneys are imperfect; but in severe and almost hopeless attacks of uræmia, bleeding followed by saline injections has been found not only to restore the patient to consciousness, but even sometimes to put an end to uræmic manifestations altogether. Thus Rendu successfully treated a case of uræmic aphasia by bleeding, and the daily injection of forty centigrammes of artificial serum.[4] Foxwell reported two cases in which rectal injections of saline fluid were used alone.[5] One of the patients quickly recovered, but in the other the advantages were not clear. Richardière[6] had a comatose patient with râles all over the chest and Cheyne-Stokes respiration, whom he bled to the extent of ten ounces, and then injected with twenty-six ounces of Hayem's serum. The patient regained consciousness, and when a relapse occurred two more injections were given with entire disappearance of the uræmia. The temperature after these injections rises a degree or two, the pulse is slowed, diuresis and a useful diarrhœa often follow. If we are to get the full advantage of this method of treatment we should not omit thorough purgation and disinfection of the intestinal tract, together with a milk diet. The latter is of value not only from its action on the kidneys, but also from the

[1] *Practitioner*, 1896, lvii. 293. [2] *Am. J. M. Sc.*, 1896, cxii. 191.
[3] See *Med. Press & Circ.*, 1896, [cxii.] 600.
[4] *Med. Week*, 1896, iv. 164. [5] *Birmingh. M. Rev.*, 1895, xxxviii. 257.
[6] *Union méd.*, 1896, 4e sér. ii. 578.

reduction of the supply of toxic matters, and the extraordinary diminution of fermentative organisms in the intestines which its use brings about. Saundby speaks of benzoate of soda as useful, but whether this is of value apart from cases of ascending infection from the bladder is uncertain. Attempts to influence the skin may also be made by hot packs and hot-air baths, but it is an open question how far we are justified in employing pilocarpin from its well-known risks. To obviate these, it has been recommended to give digitalis previously, or to use the pilocarpin as an ointment of the strength of a grain to the ounce. In some attacks it has considerable value.

An interesting attempt to apply **surgical methods** to those cases where uræmia is threatened by congestive anuria has been made by Reginald Harrison[1] and others. An incision is made over one kidney with antiseptic precautions, and the organ punctured or the capsule incised. Remarkable restoration of the excretory function has followed in some cases, and the good effects produced by the relief of tension are transmitted to the other kidney by a kind of reflex action. The operation, which was suggested by the recoveries following unsuccessful explorations for supposed calculi, is also recommended by Harrison from the similarity of the conditions to those in the eye and the testicle. In both these organs acute inflammation leads to rapid destruction of the structure unless the tension is relieved by incision. E. Hurry Fenwick[2] lays stress on the tenderness with which these congested kidneys must be handled, for the tissues are so engorged as to break up under very slight compression. The method seems applicable to those cases of acute nephritis where the inflammation has become so severe that more or less complete suppression has occurred; and possibly to more chronic ones where no progress seems to be made, and the kidney remains tender when touched.

* * * *

Tubercular kidney disease so frequently develops as a purely local malady that its detection and treatment are highly important. Hæmaturia, frequent micturition, increased mucus in the urine, and later on pus may appear. Meyer notices the congested condition of the mouth of one ureter as seen by the cystoscope.[3] There may also be often pyrexia as well as severe pain, tenderness, and, after a time, a tumour. The urine remains acid even to an advanced stage of the disease; albumen may occur in excess of that due to the pus present and may be estimated separately. For this Reinecke[4] counts the pus corpuscles under the hæmocytometer, estimating that 100,000 pus cells in a cub. cen. produce one per cent. of albumen. The detection of

[1] *Brit. M. J.*, 1896, ii. 1126. [2] *Ibid.*, 1352.
[3] *Med. News*, 1896, lxviii. 253; abstract in *Med. Chron.*, 1896, N.S. v. 278.
[4] *Berl. klin. Wchnschr.*, 1895, xxxii. 1069; abstract in *Internat. M. Mag.*, 1897, v. 120.

tubercle bacilli is not only difficult from their fewness, but they are apt to be confused with the common smegma bacillus; which stains in an almost exactly similar manner. In fact, it seems quite impossible to distinguish them except by washing the slides (after staining) for ten minutes in alcohol, which decolourises the smegma microbe, while the tubercular one retains its colour. As to the origin of the disease, Hamill [1] brings forward a good deal of evidence that it is carried down from the blood rather than upwards from the bladder in nearly all cases, that the bladder is unaffected in half the number; and, finally, that the disease is most frequently unilateral. Hence he advocates early surgical interference before the lower urinary passages are affected. R. Harrison [2] notices the origin of urinary tubercle in some cases by extension from the peritoneum, and regards surgical aid as not often likely to be of use. Tuffier,[3] while he recognises the existence of descending unilateral localised disease, thinks operation should be restricted to cases where the patient is sinking from pain, hemorrhage, septic or tubercular intoxication, or where general infection is feared. It seems certain that though many of these patients perish miserably others recover completely without operation. As to medical treatment, Harrison recommends small doses of corrosive sublimate in the early stages, and morphia for the pain. Cod liver oil, creasote, calcium chloride, and the ordinary means used in the treatment of phthisis must be employed. Urotropin, a formalin compound, gives promise of some utility from its remarkable action on the urinary tract, and possibly one of the improved forms of tuberculin may be found of value.

GEORGE PARKER.

SURGERY.

In the treatment of **paralytic club-foot**, a new method has been introduced into surgical practice in the last two years. The tendon of a paralysed muscle has been sewn to a portion of an active muscle. Dr. Milliken of New York in 1895 recorded[4] what he regarded as the first operation of the kind. The tibialis anticus was paralysed and the foot became much everted in flexion, but this condition was remedied by joining the tibialis anticus tendon to that of the extensor proprius pollicis which was active. Passive movement was begun early after the junction. A later communication from Dr. Milliken[5] gives a record of fourteen operations performed upon nine patients. In one case two-thirds of the sartorius was transplanted into the sheath of the paralysed quadriceps extensor of the thigh. The first attempt

[1] *Internat. M. Mag.*, 1896, iv. 881.
[2] *Twentieth Century Practice of Medicine*, edited by T. L. Stedman, vol. i., 1895, p. 154.
[3] *Med. Week*, 1897, v. 33.
[4] *Med. Rec.*, 1895, xlviii. 581. [5] *Ibid.*, 1896, l. 771.

failed, owing to contraction of the hamstrings, causing too much tension on the junction. A second attempt gave a good result. The author recommends transplantation of the whole sartorius in the future. Grafting of the extensor pollicis to the tendon of the paralysed tibialis anticus was performed in five cases. All the cases have been followed, and Milliken considers it proved that the extensor proprius pollicis can carry on the work of the paralysed tibialis anticus. The gastrocnemius was attached to the paralysed peroneus longus and brevis in two cases. The patients were kept under observation for over twelve months, and the apparatus in each case was left off and the patient's walk greatly improved. In one case the extensor longus digitorum was attached to the paralysed tibialis anticus, with decided improvement in the position of the foot when examined three months after the operation. In another case the reverse was done—the paralysed extensor longus digitorum was attached to the active tibialis anticus. The result in this case is not given. In one case the extensor proprius pollicis was attached to the paralysed extensor longus digitorum. In this case also the result is not given. In these two cases the gastrocnemius was also attached to the paralysed peronei, as already described. In only one case was tendon-grafting done in the upper limb. In this case a graft was taken from the deltoid muscle and attached to the paralysed triceps, and it seemed to take on its action fairly well. The author considers that when a whole group of muscles is paralysed, a healthy muscle must be transplanted, and given the insertion of the paralysed group: and that when only some muscles in the group are involved tendon grafting must be performed. He uses kangaroo tendon for suturing the tendons and their sheaths, and lays stress on the need for careful suturing of the latter as well as of the tendons. He points out that the best results of such operative procedures can be obtained only in young subjects. Winkelmann has also performed tendon-grafting for paralytic club-foot.[1] He detached a portion of the gastrocnemius muscle and fixed to it the tendon of the paralysed peronei, with excellent result.

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The treatment of intractable **congenital talipes equino-varus** has been much discussed during the last few years. In 1892 Mr. Walsham opened a discussion on this important subject at the Annual Meeting of the British Medical Association,[2] and more lately in his book[3] he has again considered the question. Mr. Tubby has devoted much space[4] to its elucidation, and several papers have appeared in periodical literature, to which reference will be made. A discussion on the subject at a meeting of the British Orthopædic Society in 1895 is also of interest.

[1] *Deformities*, by A. H. Tubby, 1896, p. 450. [2] *Brit. M. J.*, 1893, i. 339.
[3] *The Deformities of the Human Foot*, by W. J. Walsham and W. K. Hughes, 1895.
[4] *Op. cit.*

In the less severe forms of the deformity simple subcutaneous tenotomy, or tenotomy combined with division of the ligaments at the inner side of the foot (syndesmotomy or Parker's operation), will allow of rectification of the position of the foot. But in severe cases something more is needed, and the question which occupies so much attention at the present time is, What is the best treatment for these? When we have once performed an open division of the contracted tissues (Phelps's operation) in a severe case, we begin to wonder how mere division of the tibial tendons, and even of the calcaneo-scaphoid ligaments and the anterior fasciculus of the deltoid ligament, can ever allow proper rectification of the deformity. The more structures we cut the more contracted tissues we find beyond them. Muscles and flexor tendons have to be divided before the foot can be unfolded from its varus position. If we try to save the long flexor tendons after division of the abductor pollicis and the short flexor digitorum, we find the toes drawn down by them, as a bow is bent by its string, and they have to be divided also. But many surgeons now hold that all these parts can be stretched sufficiently to allow of restoration of the foot to a good position by either the hand or some form of instrumental wrench, under an anæsthetic, and they advocate this bloodless method in preference to a free open division of the tissues, or removal of some of the tarsal bones or a wedge-shaped portion of the tarsus.

Mr. Robert Jones of Liverpool, who has done a large amount of orthopædic work, strongly advocates[1] **wrenching the foot** into position, and has reported a number of what (from the pictures) appear to be very good results after it. He uses a wrench known as Thomas's. Mr. Jones says he has performed excision of the astragalus in six cases and wedge-shaped tarsectomy thirteen times, with fairly satisfactory results, but that he has discarded these methods for forcible wrenching. He felt certain that all cases of club-foot could be successfully treated by Thomas's wrench, and that the failures that were reported were due to the fact that surgeons often did not learn its method of application, which he describes in detail. This method of treating intractable talipes equino-varus is also highly recommended by Mr. Tubby, who says that he considers the time is not far distant when the severe varieties of the deformity will be submitted to forcible rectification in all cases. Some surgeons perform tenotomy of the tibial tendons, tendo Achillis, and plantar fascia before wrenching, and begin with manual manipulation, and only employ the wrench if not successful with the hand. Sometimes, as might be expected, the skin gives way on the inner side of the foot during the wrenching, and hence it must be performed with antiseptic precautions, as if we were about to do a cutting operation. Gangrene appears only to follow wrenching if the foot has been too tightly put up

[1] *Tr. Brit. Orthop. Soc.*, 1896, i. 20.

in plaster after, but sloughing has occurred from the pressure of the metal wrench.[1] When we remember the anatomy of talipes equino-varus—the enormous contraction of all the tissues on the inner two-thirds of the sole, and the marked changes in the bones, together with the fixation of the foot in its deformed position—it seems to me almost impossible that wrenching which falls short of almost tearing the foot open can overcome such extreme resistance. It seems to be generally admitted that wrenching requires a much longer time than tarsectomy or Phelps's operation for rectification of the foot, and has often to be repeated under an anæsthetic. As to the amount of pain after the wrenching, there seems to be some difference of opinion.[2] Mr. Walsham, who as surgeon in charge of the orthopædic department of St. Bartholomew's Hospital has had a large experience of club-foot, says[3] he has very seldom performed forcible rectification, and expresses the opinion that it is not only unnecessarily severe, but is lacking in the scientific principles which should guide us in our endeavours to cure the deformity. He states that a few cases have been reported in which it is said that after some years there has been no relapse.

Phelps's operation has now become well established. It has been warmly advocated by Mr. Edmund Owen in a paper read before the Royal Medical and Chirurgical Society in 1892[4] on the radical treatment of severe talipes equino-varus in children. Mr. Owen always first divides the tendo Achillis. As the structures divided in the operation are given so differently by surgical writers, I have referred to Phelps's original description of the operation published in America in 1881.[5] He says he carried the incision two-thirds across the sole, and divided the plantar fascia, the flexor brevis digitorum, the flexor longus digitorum, the flexor accessorius, the tibialis posticus, the flexor longus pollicis, flexor brevis pollicis, and the abductor pollicis. He states that he cut the artery and nerve in one case, but saved it in the other. This must refer to the internal plantar artery and nerve. All three patients were children. A very important paper by Dr. Phelps on his own operation has just been published.[6] He now frequently combines osteotomy of the neck of the astragalus, or even in some cases removal of a wedge-shaped piece of bone from the os calcis, with an open division of the soft parts on the inner aspect of the sole. In making this division of the soft parts he only makes the incision through the skin one quarter of the distance across the sole, starting from the inner malleolus, and through this incision divides the tibialis posticus, the abductor pollicis, the plantar fascia, the flexor brevis and longus digitorum, and the deltoid ligament. The tendo Achillis is divided subcutaneously. He

[1] Tubby, *op. cit.*, p. 418; and Walsham and Hughes, *op. cit.*, p. 175.
[2] *Tr. Brit. Orthop. Soc.*, 1896, i. 24, 28. [3] *Op. cit.*, p. 175.
[4] *Med.-Chir. Tr.*, 1893, lxxvi. 89. [5] *Med. Rec.*, 1881, xx. 337.
[6] *Post-Graduate*, 1897, xii. 195.

would only operate when the position of the foot cannot be corrected by manipulation with the hand or an instrumental wrench, and uses the wrench in conjunction with his open incision. He believes success lies in over-correcting the deformity in every case, and says if this is done relapse will probably not occur. He has not found a sensitive scar or flat-foot after his operations. Under one year of age he thinks tenotomy by the subcutaneous method will be sufficient; but he considers that if by manipulation the deformed position of the infant's foot cannot be rectified at the end of three months from birth, tenotomy should be performed. He agrees with most surgeons that treatment by manipulation and strapping should be commenced directly the child is born. He has now performed the operation which he originally described, or the modified form of it, in some cases combined with osteotomy, 538 times. He seems to have had no mortality. It is disappointing that all he can tell us with regard to the question of relapse is that out of 140 cases he was able to trace after a year from the time of the operation, only ten had relapsed, and that the three cases on which he first operated, which I have already referred to, had not relapsed after a period of ten years. He admits that equino-varus after any operation or mechanical treatment is quite likely to relapse, and supervision by the surgeon will be required for months or years. He says: "In my travels through Germany I made casts of feet which had relapsed after these osteotomies in the hands of some of the most eminent and distinguished German surgeons, and the same observations are to be made in every country."

There is no doubt that with Phelps's first operation, the foot can be brought into very good position. I have done the operation several times, and have been very pleased with the result; but in order to obtain a really satisfactory position of the foot without tension, I have been obliged to divide a large number of structures in the sole, and for this purpose have had to carry the incision two-thirds across the sole, as Phelps originally did. Whenever I have started with the intention of only dividing the structures on the inner aspect, I have had to go on and divide the long and short flexors of the toes; but have never divided the external plantar artery and nerve, though I have often found that the plantar fascia over them was one of the resisting structures requiring division. I believe a free opening up of the astragalo-scaphoid joint is essential to success. An objection to Phelps's operation is that so many important structures are divided in the sole, but they do not seem to be essential in walking,[1] and a thoroughly plantigrade foot which has not been shortened by tarsectomy is a condition with which we may perhaps be satisfied, even if all its movements are not

[1] Phelps (*loc. cit.*, p. 210), says that the motion of the toes was preserved in nearly all his cases, and in the few with loss of flexion of the toes locomotion seemed as perfect.

perfect. Another objection to the operation is that the contraction of the scar will tend to reproduce the deformity. Of course the free open division of Phelps's operation should only be made when subcutaneous tenotomy, or syndesmotomy, fails, or would obviously fail.

A method of filling up the gap in the astragalo-scaphoid joint by means of a wedge of decalcified bone, wired in position, was introduced a few years ago by Dr. William Gardner of Melbourne.[1] This will only keep the bones apart while the decalcified bone is being replaced by fibrous tissue, and this fibrous tissue must eventually contract just as if it had been formed from ordinary granulations. Mr. Kellock[2] refers to the tendency to relapse which he has seen after this operation when instrumental support is withdrawn. He thinks contraction in the scar may be avoided by transplanting a flap of the skin on the outer side of the foot (which becomes superfluous there when the deformity is corrected by Phelps's operation) on to the gap formed by division of the contracted tissues on the inner side. He first dissects up a flap of the skin, and a few days later transplants it, as in Croft's method for treating contracted cicatrices after burns.

Mr. Arbuthnot Lane[3] considers that there are only two satisfactory methods of treatment for severe forms of equino-varus—Phelps's operation, or a new method which he has introduced. In Buchanan's operation all the structures on the inner side of the sole are divided subcutaneously; but Lane divides all the structures right across the sole—vessels, nerves, tendons, &c.—but also subcutaneously. What advantage this can be I must say I fail to understand, and as he admits—and as indeed must be evident to anyone who has several times performed Phelps's operation—the foot cannot at first be placed in good position by reason of the non-division of the contracted skin. In connection with this method of operating I will again refer to Mr. Edmund Owen's paper.[4] He says: "However vigorously the knife may have been used in the anatomical darkness of a subcutaneous operation, the complete effacement of the deformity is effectually hindered by the skin, which is not only thick and resisting, but is closely connected with the subjacent plantar fascia." Mr. Walsham is not at all favourable to Mr. Lane's method.[5] He has seen relapsed cases after it, but relapse will of course occur after any method if the parents neglect to carry out the surgeon's instructions. I cannot conceive that it is possible that either after Phelps's operation or Lane's modification of it, the proximal and distal ends of the tendons unite across the gap filled by granulations, or organising blood-clot, in such a way that the tendons are ever restored in exact continuity, as separate tendons.

Mr. Arbuthnot Lane, in performing the ordinary Phelps

[1] *Austral. M. J.*, 1893, xv. 435. [2] *Lancet*, 1895, i. 805.
[3] *Lancet*, 1893, ii. 432. [4] *Loc. cit.* [5] *Op. cit.*, p. 214.

operation, has hastened the healing by placing a large skin graft on the wound on the second day.[1]

As to the relative advantages of Phelps's operation and **tarsectomy**, or the desirability of performing tarsectomy at all in children, much difference of opinion exists. Mr. Walsham[2] admits that the foot is left in an imperfect condition, but becomes a useful plantigrade foot. He generally excises the astragalus, but he says this alone is often not enough, and a portion of the os calcis or other tarsal bones or the external malleolus has to be removed. Mr. Tubby, on the other hand, thinks that tarsectomy can very seldom be required, but then he is in favour of wrenching, and he contrasts the condition of the "elastic" foot after wrenching with the foot after tarsectomy, which he points out is often shortened and inelastic, with imperfect movement at the ankle and mid-tarsal joints, but he admits that the period of treatment is much shortened by tarsectomy. Relapse he has seen in an extreme degree years after tarsectomy, and when this occurs he considers nothing further can be done. This is, however, not always so. I have lately had a relapsed case of severe talipes equino-varus after tarsectomy, in which I completely restored the foot to the plantigrade position by removing another wedge of bone. The case at the time of the first operation was not under my care. When we do a wedge-shaped tarsectomy we feel that the contraction of the scar-tissue will not tend to reproduce the deformity, as it does in Phelps's operation; and when we consider the enormous change which exists in the shape of the bones in most severe long-standing cases, it seems very unlikely that anything short of an operation which deals with them will ultimately succeed. I have myself performed wedge-shaped tarsectomy or Phelps's operation a dozen times for severe equino-varus, and at present I do not feel certain which is the best for all cases; I think each case must be judged by its anatomical conditions. The risks of tarsectomy are considered in a paper by Wilson.[3] He has collected the records of 435 cases, and finds there have been in this number seven deaths, three from septicæmia, three from diarrhœa, and one from carbolic acid poisoning. In one case the leg had to be amputated for gangrene. Astragalectomy was found to be more frequently practised than cuneiform tarsectomy. The performance of some form of tarsectomy in the severer forms of congenital talipes equino-varus is advocated by Hartley of New York in a paper read before the New York Surgical Society,[4] and by other American surgeons at the same meeting.[5] Hopkins of Philadelphia describes[6] a method of correcting inveterate talipes varus by the artificial production of Pott's fracture deformity. He resects about half-an-inch of the lower end of the fibula, and then forcibly abducts the foot until the

[1] *Loc. cit.* [2] *Op. cit.*, and *Brit. M. J.*, 1893, i. 339. Tubby, *op. cit.*, p. 446. [4] *Ann. Surg.*, 1894, xix. 257. [5] *Ibid.*, 367 [6] *Ibid.*, 1895, xxi. 461.

deformity disappears. He has operated on three cases, and one case figured in his paper indicates a good result. If the deformity consisted simply in adduction of the whole foot, however marked, it would be easy to understand how such an operation would remedy it; but when we remember the twisting inwards of the front part of the foot at the mid-tarsal joint, it seems unlikely that an operation which can only allow of abnormal abduction at the ankle can give a satisfactory result.

CHARLES A. MORTON.

GYNÆCOLOGY AND OBSTETRICS.

The etiology of **displacements of the uterus** which call for operation has been fully dealt with in recent papers by Howard Kelly[1] and Hunter Robb.[2]

Of the operations which have been devised for the cure of retroposition that of **ventrofixation** calls for most comment.

Dührssen[3] considers that the complications following ventrofixation and vaginal fixation can be avoided by **closing the peritoneum separately**. He describes a method of vaginal or rather vesico-uterine fixation. Anterior colpotomy is performed, by transverse incision of the vaginal wall, and longitudinal (median) incision of the utero-vesical fold; the fundus is then seized with bullet forceps and sutured to the vesical peritoneum. Two sutures are used on either side, the upper one being inserted a quarter of an inch above the upper end of the peritoneal opening. These sutures unite vesical and uterine peritoneum, obliterating, to a great extent, the previously existing vesico-uterine pouch. The peritoneal wound is then closed with a continuous catgut suture, care being taken to unite peritoneal tissues only. The vaginal wound is sutured separately in the same manner. The object of this method is to secure peritoneal adhesion only, so that the mobility of the uterus shall be unimpaired within normal limits. The result appears to be as expected in Dührssen's cases, which up to now are too few to allow of a definite opinion being arrived at.

One important point appears to be the **position of the sutures**. Mangiagalli, Sinclair, and Laroyenne suture the middle section of the anterior uterine wall, leaving the fundus free to expand should pregnancy occur. Dührssen places the sutures higher and nearer the fundus, Mackenrodt lower in the inferior segment. The former causes interference with the expansion of the uterus, the latter does not always prevent return of the displacement; the method of Mangiagalli would appear more suitable.

[1] *Am. J. M. Sc.*, 1896, cxii. 629.

[2] *Columbus M. J.*, 1896, xvii. 311; abstract in *Brit. M. J.*, 1896, ii. Epitome, p. 79.

[3] *Centralbl. f. Gynäk.*, 1896, xx. 584; abstract in *Am. J. M. Sc.*, 1896, cxii. 622.

Kelly[1] prefers **ventrofixation.** After freeing adhesions, he sutures the fundus to the abdominal wall by two stitches passed a little below the fundus on its posterior aspect. He uses silk sutures and leaves them permanently in position. In one case, in which he obtained the uterus after *post-mortem* examination, two thin bands of adhesions were found uniting the posterior aspect of the fundus to the abdominal wall; the *post-mortem* specimen was obtained over a year after the operation. He fixes the uterus by passing two silk sutures through the fundus uteri and the peritoneum and sub-peritoneal tissue of the abdominal wall. One is passed through the tissue of the fundus about ½ inch from its summit and on its posterior surface, the other about ⅓ to ½ an inch lower. The upper uterine suture is attached to the wall of the abdomen at a lower point than the lower uterine suture, so that the uterus is held in a position of anteversion and flexion. Silk is the material used, and the sutures are buried. The wound is then closed in the ordinary way. He reports 219 cases operated on by him; no death occurred. In fourteen cases pregnancy subsequently took place. In one case delivery was difficult, owing to dense adhesions, the result of suppuration, having occurred; the labour was terminated by the use of forceps.

Küstner[2] reports 1120 cases of ventrofixation: in 637 the retroversion was adherent; in 442 non-adherent. Seven deaths occurred, two of which were due to intestinal obstruction. Forty-four failures occurred. Pregnancy was recorded in 122 cases: in seventy-four pregnancy and parturition were normal; in fifteen abortion or miscarriage occurred. Transverse presentations occurred three times; tubal pregnancy once; retention of placenta once, and in three cases Cæsarean section was necessary.

It will thus be seen that the **mortality after ventrofixation** is slightly higher than that after vaginal fixation; but in both it is low: in the former, about one in 190; in the latter, about one in 280. Some of these were not immediately due to the operation, but to accidental complications. The immediate risk of the operation is not great; the remote risk as regards the causation of complications during pregnancy or parturition is also small, especially with the later methods of operating.

At the Geneva Congress it was agreed that all cases of retroversion complicated by adhesions were suitable for operation, and also all those associated with disease of the appendages.

Küstner, in performing Alexander's operation, sews the shortened ligament to the fascia between the upper end of the incision and the anterior superior spine. He records 120 cases of this (Alexander's) operation performed by others, and seventy-one performed by himself: of the 120, or rather of that

[1] *Loc. cit.* [2] *Samml. klin. Vortr.*, 1896, No. 171.

proportion of the total who reported themselves subsequently, there were thirteen failures, and pregnancy occurred in twenty-seven; five of these miscarried. Twenty labours were normal. His own results showed eight failures, or partial failures, out of sixty-five operations; pregnancy in five, all of which went to term, and were delivered normally.

Abbe[1] has described an important modification of Alexander's operation: after laying open the inguinal canal, freeing the ligament and drawing it out as far as necessary, he, by the use of a needle threaded with a loop of silk, uses the ligament as a suture to close the canal, thus gaining a firm attachment for it, and doing away with the necessity for either (1) tying the ligaments of opposite sides together, or (2) stitching the ligament to the surrounding tissues. He finds that this method does not impede the circulation in the ligament, and gives a very firm hold.

Bode[2] reports cases operated on by the vaginal route and intra-peritoneal method; his method follows that of Douglas, reefs being taken in the round ligaments near their origin from the uterus with silk sutures. The reefing near the origin of the ligament is of importance, in order that the tendency to approximation of the uterine cornua sometimes met with after operations of this kind may be avoided.

Wertheim and Mandl[3] combine two procedures: the vesico-uterine pouch is opened, and the cervix and fundus are drawn down so as to expose the tense utero-sacral ligaments. The intestines are held upward by a gauze compress, posterior adhesions are separated, and the sacro-uterine ligaments drawn backwards until the fundus is kept well forward; the points grasped are then stitched to the uterine origins of the utero-sacral folds, thus drawing backwards and upwards the isthmus and cervix; the round ligaments are then brought into view after removing the gauze packing and replacing the uterus, and shortened by the method of Bode previously described.

Pryor[4] opens the posterior *cul-de-sac* by a transverse incision, opening the peritoneum, the fingers are introduced, and any adhesions broken up. An iodoform gauze pad is inserted into the pelvis behind the cervix, with the patient in Trendelenburg's position, which causes the escape of the intestines into the abdominal cavity, and a second pad inserted, when the table is lowered to a horizontal position, the pads withdrawn, and a wad of gauze inserted just within the cut edges; the uterus is now brought into anteflexion bimanually, care being taken not to displace the gauze, which is removed after from seven to ten days under anæsthesia, and a fresh dressing applied; this is

[1] *Ann. Surg.*, 1896, xxiv. 699.

[2] *Centralbl. f. Gynäk.*, 1896, xx. 470; abstract in *Am. J. M. Sc.*, 1896, cxii. 621.

[3] *Centralbl. f. Gynäk.*, 1896, xx. 465; abstract in *Am. J. M. Sc.*, 1896, cxii. 621.

[4] *Med. Rec.*, 1895, xlviii. 76; quoted by Kelly, *loc. cit.*

allowed to remain a week, and a third dressing applied five days later. The vagina is kept packed for a month to support the uterus. A dense mass of lymph is produced about the utero-sacral ligaments, which draws the posterior pole of the uterus backwards and upwards.

Newman Dorland,[1] in discussing the subject of gestational complications and dystocia after anterior fixation of the uterus, said that shortening of the round ligaments in his opinion was very frequently unsuccessful, and that the objections to the opening of the peritoneal cavity having been overcome, ventrofixation was preferable; the objections that had lately arisen were based on the pernicious influence of the method on pregnancy and labour. He classified the methods and modifications of operations for reposition of the uterus into five groups: (1) shortening the round ligaments; (2) ventrofixation; (3) vaginal fixation; (4) vesical fixation; (5) cervico-fixation or trachelopexy. After all these operations, cases of dystocia and gestational troubles have been recorded.

He presents sixty cases of dystocia and gestational disturbance after ventrofixation alone. He presents 179 cases of pregnancy after ventrofixation, in 120 of which (67.03 per cent.) gestation was normal; in 111 (62.01 per cent.) labour was absolutely normal; in 68 (37.98 per cent.) both gestation and labour were absolutely normal. In 111 cases some disturbance of pregnancy, parturition, or both was noted.

In sixteen cases (8.93 per cent.) severe pain was felt in the line of the incision either during gestation or labour; in four cases excessive vomiting; in ten cases displacements of the cervix upwards and laterally; in nine cases rupture of the uterus was threatened; in five cases uterine inertia was noted; in fifteen abortions occurred; in ten miscarriages or premature labours; difficulties in parturition occurred in twenty-two cases; in nine abnormal presentations—ear once, breech twice, transverse six. Version was performed nine times; forceps, eleven times; Cæsarean section, three times; placenta retained, three times. Maternal deaths, two; fœtal deaths, 32. The great frequency of transverse presentations is due to the prevention of longitudinal expansion by the adhesions formed by the operation, which at the same time causes distension of the antero-posterior diameters, with thinning of the posterior wall. This can be avoided by the prevention of the formation of strong serofibrous adhesions. With this object Leopold favours the use of absorbable sutures; others remove the sutures about two weeks after operation.

The object of ventrofixation is not to convert a pathological retroversion into a pathological anteversion or flexion, but to restore and maintain the fundus uteri in its normal position of moderate anteflexion; the fundus should be fixed at such a

[1] *Univ. M. Mag.*, 1897, ix. 163; see also *Am. J. Obst.*, 1897, xxxv. 112.

height as not to cause undue upward traction on the cervico-vaginal attachments, or acute anteflexion or version.

Leopold advises fixation at a point not more than half an inch above the upper border of the symphysis. The lower the fixation the greater the proportion of disturbances of pregnancy and of cases of dystocia. Noble states that over twenty-five per cent. of pregnancies after the operations of Dührssen and Mackenrodt abort. Dührssen himself states that twenty-seven per cent. abort after vaginal fixation, while 16.6 of those treated for retrodisplacements by pessaries do so.

Dorland gives the following conclusions :—

1. From all points of view ventrofixation for the cure of uterine displacements gives the best result.

2. If improperly performed anterior fixation of the uterus may exert a deleterious effect upon subsequent pregnancies.

3. This evil increases in direct proportion to the low implantation of the fixation sutures, hence the vaginal operations are especially dangerous.

4. The abnormal conditions noted include pain and traction at the site of the incision, premature termination of the gestation, difficulties in micturition, excessive nausea and vomiting, abnormal presentations, mechanical obstruction to labour, uterine inertia, cervical rigidity, uterine rupture, placental anomalies, and *post-partum* and puerperal hemorrhages.

5. Over fifty per cent. of the subsequent gestations and labours offer some abnormal condition.

6. About fourteen per cent. suffer from abortions or miscarriages, and over twelve per cent. show dystocia, in varying degrees, after hysteropexy, while over twenty-seven per cent. abort after vaginal fixation.

Luigi Negri,[1] writing on hysteropexy studied from the obstetric point of view, gives noteworthy statistics of the influence of the various operations on pregnancy and parturition, and quotes Flaischlen and Veit, the former of whom says that ventrofixation has cured sterility in many cases of long standing, while the latter recommends the operation for some cases of sterility. The author finds twenty-five pregnancies in seventy-seven ventrofixations. Dührssen saw forty-four pregnancies in 318 vaginal fixations. Mackenrodt observed twelve pregnancies in forty-nine vaginal fixations, conception is therefore not only possible but frequent.

Among the cases noted were six of absolute sterility, which ceased in four after ventral, and in two after vaginal fixation. In twelve cases of sterility arising from displacements after labour of from two to eight years' duration, conception took place immediately after the operation; in four after ventrofixation; in eight after vaginal fixation. In considering the behaviour of the adhesions created and the uterus thus fixed

[1] *Ann. di Ostet.*" 1896, xviii. 584.

during pregnancy it is necessary to establish the fact of the existence of such fixation at the time of conception.

In 237 cases observed by Baudoin, the adhesions were present after three years; other observers have also noted their presence after long intervals.

As regards the behaviour of these adhesions during pregnancy and labour, the author quotes observations by numerous observers, which seem to indicate that the adhesions distend and stretch during pregnancy and after labour undergo involution. Sero-serous or sero-fibrous union is recommended according as the operators believe that stretching occurs or otherwise. Leopold, Laroyenne, and Sinclair make the adhesions as strong as possible. Some bury the sutures, others remove them after several weeks. The influence of the adhesions on the enlargement of the uterus in pregnancy and upon the course of labour is next noted. Negri collects 115 cases of pregnancy in ninety-seven women after ventrofixation; the result is known in 102: there were seventy-one labours at term, ten abortions took place, and four premature births; eight abortions and two premature labours were due to the operation. Five anomalous presentations: shoulder, three; foot, one; vertex with inclined parietals, one. Operative interference was required seventeen times. Cæsarean section, three times; forceps, seven; version (podalic), five; version (cephalic), one; extraction by the feet, one. In fourteen pregnancies there were disturbances due to the operation.

Norris,[1] writing on the management of labour complicated by ventrofixation, states that suspension of the uterus by a **technique** which avoids extensive and firm adhesions, and at the same time does not too sharply anteflex the uterus, and Alexander's operation of shortening the round ligaments are generally considered to be free from dangers to a subsequent pregnancy. He relates a case in which the labour terminating the first pregnancy after an operation for ventrofixation was attended with great difficulty and danger; the anterior wall fixed at the fundus by sutures had become folded on itself during its enlargement and formed a tumour obstructing delivery. No presenting part was felt through the cervix. A careful examination under ether showed that the posterior uterine wall, which practically formed the whole of the uterine sac, was so thinned that the intestine containing fæcal masses could be readily felt by the hand in the uterus. The fœtal head was lying high and on the left in the region of the mother's spleen. The breech lay in a depression between the upper margin of the mass of muscle (which represented the true anterior wall of the uterus) and the upper anterior uterine wall, with which the feet and legs were in contact. As it was impossible without imminent danger of rupturing the uterus to carry the hand past the obstruction and grasp the feet or dislodge the

[1] *Am. J. Obst.*, 1897, xxxv. 91, 116.

breech from the depression in which it rested, cephalic version was performed, and the head pressed down into the pelvis between the obstructing mass and the sacrum. Tarnier's axis traction forceps were then applied, and the child extracted; owing, however, to the umbilical cord having been compressed between the head and the mass of muscle above the symphysis, the child was dead. The puerperium was normal.

Her second pregnancy was terminated with difficulty at seven months, the foot presenting; the hypertrophied anterior wall, the rigid and thick anterior lip, and elevation of the cervix were present, but to a less degree than in the preceding pregnancy. The child was still-born.

From the statistics of Dorland and the cases described, the following suggestions are offered:—

Symptoms which suggest fixation of the uterus in an abnormal position are to be looked for as soon as pregnancy is recognised, such as excessive irritability of the bladder, dragging pain at the cicatrix, and excessive nausea and vomiting. Vaginal examination should be made to determine the degree of elevation of the cervix, the direction of the axis of its canal, the thickness of its anterior lip, and of the anterior uterine wall.

Careful bimanual examination should be repeated at intervals to ascertain the progress of these changes, and later in pregnancy abdominal palpation used to diagnose malpresentation.

The more nearly the cervical axis points above or towards the sacral promontory the greater will be the obstacle to delivery, which is also proportionate to the thickness of the anterior wall of the uterus and the anterior lip of the cervix; the chief difficulties arise from failure of dilatation owing to the imprisoning of the fibres of the anterior uterine wall. If these conditions are recognised the question of the advisability of inducing premature labour before the head is too large to obstruct delivery becomes a serious one.

Dorland's statistics show a higher fœtal mortality (fifty-eight per cent.) than in eclampsia, and a higher maternal mortality (fourteen per cent.) than in Cæsarean section.

The recognition of these conditions at full term calls for anticipation of faulty position, prolapse of cord, uterine inertia, and the dangers of rupture of the uterus. Efforts at dilatation, by manual or instrumental means, should be resorted to as soon as the cervix is sufficiently low in the pelvis. Should these fail, free incisions into the cervix should be resorted to. Serious obstruction must be dealt with without delay; the only alternatives are cervical dilatation or Cæsarean section, the latter is the indication in cases where the cervix is drawn up so high as to make manipulation and dilatation or incision difficult.

We may contrast the results of different operations for the cure of retro-displacements, the Continental and American tables being placed separately to avoid overlapping.

AMERICAN.

Kelly—219 operations, ventrofixation or suspension; fourteen pregnancies; difficult deliveries, one (forceps).

Edebohls — 115 operations, shortening round ligaments; twelve pregnancies; two abortions; nine deliveries; seven living children; two lost sight of before delivery.

Dorland—179 cases of pregnancy after ventrofixation; sixty-eight normal labours; twenty-five abortions and miscarriages: twenty-two cases of difficult parturition; thirty-two fœtal deaths; two maternal deaths.

Norris—2 pregnancies after ventrofixation, both difficult; two fœtal deaths.

CONTINENTAL.

Negri—115 cases of pregnancy after ventrofixation; fourteen abortions and premature births; operative interference at parturition, seventeen.

Küstner—122 pregnancies after ventrofixation; fifteen abortions; six difficult deliveries.

Negri—112 pregnancies after vaginal fixation; nineteen abortions; nine difficult labours.

Küstner—23 pregnancies after vaginal fixation; thirteen abortions; five abnormal deliveries.

Küstner—27 pregnancies after Alexander's operation; five abortions; twenty normal labours.

Negri sums up the results as follows as regards abortions: interruption of pregnancy—(1) in untreated retroflexions, twenty per cent.; (2) in cases treated by pessaries, twelve per cent.; (3) after vaginal fixation, fifteen per cent.; (4) after ventrofixation, seven per cent.; (5) after shortening of round ligaments, four per cent.

WALTER C. SWAYNE.

Reviews of Books.

The Profession of Medicine: Its Study, and Practice; its Duties, and Rewards. By CHARLES WEST, M.D. Pp. x., 115. London: Kegan Paul, Trench, Trübner, & Co., Ltd. 1896.

Dr. West's high medical record, and his official connection with the College of Physicians, render his views on the study and practice of medicine peculiarly valuable. He looks back to the advantages of apprenticeship in the early training of a medical man, and also strongly advises some knowledge of the principles of the collateral sciences. His advice as to work in the wards, note-taking, and the importance of good manners, even towards the most debased patients in hospital, shows that he wishes students to be not only good doctors, but gentlemen

in the highest sense. The greater part of his book is devoted to the practice of medicine. His views on the necessity of long-suffering and of quick observation, on a hopeful manner to the patient and his friends, with suggestions as to consultations, note-keeping, and professional secrecy, are wise and eminently sensible, if strict. As regards professional secrecy, he clings to the great dictum of the University of Paris in 1602, "*Ægrorum arcana, visa, audita, intellecta, eliminet nemo.*" Dr. West's exceptions would be, where silence would condemn an innocent person, or would fail to detect crime. He touches with a masterly hand on some of the difficulties of the day, consultation with homœopaths, provident dispensaries, fees, hospital abuse, and friendly societies. The whole tenor of the book is to show that so-called medical etiquette is common honesty and fair dealing to one another; and the injunctions come well from a former senior censor of the College of Physicians, who was long revered by a large circle of his professional brethren.

The Battle of the Clubs. By THE SPECIAL COMMISSIONER OF THE "LANCET." Pp. viii., 230. London: The Offices of the *Lancet*. [1895-96].

The thanks of the general practitioner throughout the land are due to the *Lancet* for such an impartial and comprehensive review of this—for a large number of doctors—the burning question of the hour. The facts connected with the societies which provide medical aid for the sick poor are taken from anywhere between Plymouth and York, the great hives of industry being naturally the most important, and the general position seems to be much about the same everywhere—only here and there being "more so." The picture disclosed is a gloomy one, though occasionally a ray of light and encouragement appears. Some few instances of medical success are recorded, and these show what might be done by loyalty, brotherhood, association, and above all by discipline.

It goes without saying that doctors are bad business people; they must, however, become good ones, and it is pretty well understood that now, whatever it may have been in former times, Heaven helps those only that help themselves; and the sooner it is recognised that self-reliance is their only effective weapon, the sooner will their deliverance come. Appeals to authorities, medical councils, and the rest are futile. There is no body of men in existence having the same power, the same opportunity of influencing public and private opinion, as doctors; and this influence must be exerted, not only to the utmost, but systematically. No battle is won without fighting: courage and self-denial are the essentials of success, and the example set at Cork must be kept in mind. During the battle the weaker brethren must be supported, money must be provided, leaders

must be found and—a much more important matter—must be implicitly obeyed. The organisation must be on a national basis, and in fact the moral generally is the text so harped upon by the political agent to the constituencies, "Organise, organise, organise."

One or two special points may be noticed. Some are inclined to dogmatise as to the ease with which a wage limit standard might be fixed; but it would appear that thirty shillings a week by no means represents the same amount of wealth in all places. A reasonable discretion must be permitted. Doctors must compose their own committees of management, and the "honorary treasurer who is also chairman," and the "honorary member," must disappear. Some complain of the difficulty of bringing the "consulting" class into line. This is a difficulty which would certainly disappear if public opinion and personal interest pointed the same road. There would be some acrimony of course; but if this battle is to be fought, it must be "without gloves," or better not at all. As a basis and a starting point, the Bexhill Rules (p. 63) would be found an excellent model.

The malice and the skill and cunning with which the profession has been made to fight itself, as at Northampton, are a revelation. And at Birmingham it would almost seem as if some doctors had behaved as disgracefully as those who exploited them. It is impossible to close without paying a tribute of admiration to the unanimity and loyalty with which this question has been fought out at Brussels; the gallantry and self-denial with which the men stood shoulder to shoulder are beyond all praise. Shall we see anything like it in England? We doubt it.

Gout and Goutiness. By WILLIAM EWART, M.D. Pp. xii., 589. London: Baillière, Tindall and Cox. 1896.

Dr. Ewart's book embraces all theories of gout. Every aspect of the disease has been worked out by him with an accuracy that is beyond praise. That the uric acid diathesis embraces a great deal more than gout, that it is a question whether gout has any separate existence apart from changes in the joints, that goutiness, with all its nervous phenomena, more common in women than the acute disease, exists as an independent entity, that there is an attenuation of types, and a pre-arthritic stage in gout, all these points force the conclusion that we can hardly deny the notion of a general and constitutional affection.

Gout is a perversion of nutrition. Buzzard believes that uratic deposits may occur in the lymphatics of a peripheral nerve, and that a local neuritis may be the result. Wade's neural theory of gout is founded upon this assumption; but although there is evidence of the priority of the nerve disorder in the sensory, vaso-motor, and trophic changes, the missing link in the demonstration is the proof of a pre-existing neuritis

culminating in an arthritic attack. Formerly the humoral theory held sway; and of late the primary humoral aspect of faulty nutrition has been worked in by Sir Dyce Duckworth, with the secondary dystrophic aspect based upon disordered innervation. Garrod demonstrated the abnormal presence of uric acid in the blood. To him the deposition of the precipitate of the solid sodium biurate crystal was the harmful fact. Dr. Haig's toxic uric acid theory of gout recognises the deleterious action of uric acid when circulating in a soluble state: whilst Ebstein conceives a double and reciprocal influence—toxic on the one hand, mechanical on the other—between the tissues and the biurate. Sir William Roberts's experiments are described at some length; the extent of the solubility of the biurate and quadriurate of sodium, the beneficent influence of common salt, an insufficient supply of which may explain the frequency of uric acid concretions among the Hindoos, whose staple diet is rice, &c. The accumulation of uric acid in the blood depends largely on renal inadequacy. Its normal output is much exceeded in certain diseases, such as leucocythæmia, owing to the vast increase of leucocytes; whilst in simple anæmia, in which the leucocytes are not increased, the amount of uric acid is not abnormal. Sir W. Roberts has suggested that the excretion of uric acid, instead of urea, constitutes a recurrence towards an earlier type of existence; evolution having gradually replaced uric acid by urea.

Dr. Ewart speaks of the connection of gout and rheumatism and rheumatoid arthritis, but without touching on the presence of micro-organisms in the latter ailment. Patients with rheumatoid arthritis are liable to gouty complications. The gouty and the scrofulous constitution may co-exist. Glycosuria usually coincides with a remission of the gouty manifestations. The connection of plumbism and gout is probably due to the influence of lead on the liver and the intestines, rather than in a more direct relation.

The clinical types of the disease are examined with care: the prearthritic stage, the arthritic, the joints affected, chronic gout, and gouty cachexia; and also the clinical features of gout and goutiness in relation to the various organs. The author considers that clinically gouty gastritis is metastatic, but agrees with most observers that probably many of the fatal cases depend on angina pectoris. The urogenital mucous membrane, the organs of reproduction, the liver, kidneys, heart and veins, the skin and the brain may all suffer from gout; but in the brain the affection is metastatic, as is also gouty congestive paraplegia.

Gout may be looked upon too exclusively as a renal, a hepatic, or a nervous question. These three aspects are in reality inseparable. The nervous system has not only an undoubted influence on the metabolic changes and assimilations, but also exercises a determining influence upon some of the acute phenomena of gout.

The author discusses treatment with great fulness. His suggestions may almost be compressed into the dictum, "Live an active and frugal life," using the term in the wide sense of working within one's strength, and being frugal not only in food and drink, but as to all excess in matters connected either with body or mind. Various drugs are passed in review, and the advantages and disadvantges of colchicum touched upon. Salicylates are useful in a minor degree. The nature of the attack and the condition of the patient must influence all treatment. Alkalies do not dissolve the biurate, but perhaps the kidneys are thus assisted in separating uric acid from the blood. Even lithia salts are poor solvents. The treatment of chronic gout is largely one of environment, but guaiacum is useful. Uric acid is formed not only from animal albumen, but from vegetable albumen also, though in a less degree. "Live by the baker, the dairyman, and the fruiterer" (Haig), with a minimum of meat, and with regular and moderate exercise. In gouty glycosuria and diabetes, strict diabetic diet is not appropriate. Those wines agree best which act upon the patient as diuretics. British and foreign spas are passed in review; and the climate of Clifton and the waters of Bath are commended.

The book is an exhaustive study of gout in all its forms, and is characterised throughout by thorough common sense.

On Gall-stones or Cholelithiasis. By EDWARD MANSFIELD BROCKBANK, M.D. Pp. x., 301. London: J. & A. Churchill. 1896.

This volume is the outcome of an investigation on the solvent action of various drugs on gall-stones which was carried out in 1892 at the Owens College, Manchester. It gives a good account of the present condition of our knowledge of a disease which is even yet only imperfectly understood. The author has not discovered any specific remedy, but he has some belief in the practical utility of large doses of olive oil; and he prefers the lighter forms of nitrogenous foods to the carbohydrates, fats, and sweets. He has little faith in cholagogues, but he believes that the last decade has seen a great improvement in the prognosis of many cases which cannot be relieved by medicinal treatment: and he describes the indications for surgical aid in the treatment of calculous affections of the biliary passages.

A Treatise on the Surgery of the Alimentary Canal. By A. ERNEST MAYLARD, M.B., B.S. Pp. xxiv., 724. London: J. & A. Churchill. 1896.

It is not easy to write a review of this work: it is at once so praiseworthy and so disappointing. It is praiseworthy in this, that it proves great industry in reading; it is disappointing

because it is incomplete in the presentation of facts and without discrimination in practical advice. Not enough has been read to provide a full summary, and not enough practice has been had to provide definite and discriminative advice. Thus the work is of little use to the expert and confusing to the tiro.

The arrangement of matter is not altogether satisfactory. Chapters are arranged apparently according to their length, and their length alone. Thus, chapter VII. concerns "Tumours: malignant—carcinoma and sarcoma;" chapter VIII. "Carcinoma (*continued*)." Chapter IX. deals with "Non-malignant or cicatricial stricture;" chapter X. with "Cicatricial stricture (*continued*)." And so it is all through. Appendicitis has one chapter to itself and three "*continueds*." A book on intestinal surgery is not a serial novel, where the length of the chapter is regulated by the size of the magazine: on such a subject as this scientific arrangement and sequence should alone be permitted to rule.

As an example of the method of the work we might fairly select Malignant Disease of the Œsophagus, in Chapters vii. and viii., to the titles of which we have called attention. As to treatment, we find firstly some advice as to foods, secondly the use of tubage, and thirdly "for separate and fuller consideration the question of operation" is left. Here however we have mention made of gastrostomy, and all that we are told of its value (p. 81) is that "David Newman records four consecutive successful cases." Then follows this sentence: "Contrasting, however, the operation successfully performed with the alternative of permanent tubage, it must be confessed that in the majority of instances the patient with a tube in the œsophagus is, in various ways, in a more comfortable position than one with an artificial orifice in the stomach." This may be true, but the author provides no facts in support of his argument. He makes no reference to vital facts in selection of methods. Œsophagostomy and gastrostomy are classed as "the two operations worthy most consideration." "The former operation," we are told, "is performed when the disease is located high up, and the opening in the œsophagus being thus below the seat of obstruction, a feeding tube can be easily passed from the wound into the stomach. Occasionally the œsophagus is opened above the level of the disease, the object then being to facilitate the passage of a tube which otherwise would be conducted with pain or difficulty through the natural orifices." Statements such as these, directly contravening the enlightened and experienced surgery of the day, should be supported by something more than facile remarks of the author. As compared with the four consecutive successful cases of gastrostomy of David Newman, at least something should have been quoted in favour of œsophagostomy above the stricture.

Some of the chapters in the book are decidedly below the level we should expect in a modern work. The worst are those

dealing with intestinal obstruction. In the treatment not a word is said about intestinal drainage, which most surgeons regard as of some importance. More than two of the four pages given to a discussion of the treatment are occupied with a table, and explanation of some thirty cases, culled chiefly from the *Lancet* and the *British Medical Journal*, of which the author makes the *naif* remark: "It is possible that every successful case is published, but it is certain that every unsuccessful one is not." For statistics of operations for intestinal obstruction, Mr. Maylard should go to Hospital Reports and not to Medical Journals. Not every hospital surgeon now-a-days publishes every successful case of intestinal obstruction which he operates upon. Similar criticism might be made of the author's handling of other varieties of obstruction. Everywhere he has missed some crucial point in treatment: nowhere can he be relied on as a safe guide. Most markedly is this seen in intussusception and in volvulus.

Our careful study of this work leads to the conclusion that it is worth reading, but not safe to follow. It is worth reading because it brings together many stray facts and observations, gathered in wide if not exhaustive study: it is not safe to follow because it does not reflect the best work of the best surgeons, and provides no original or well-supported advice from the author himself.

Diagnosis and Treatment of Diseases of the Rectum, Anus, and Contiguous Textures. By S. G. GANT, M.D. Pp. xiv., 399. Philadelphia: The F. A. Davis Company. 1896.

Dr. Gant's volume is not undeserving of some amount of praise. It is printed on good paper, in clear bold type, and the numerous sub-divisions are made evident at a glance, by the device of separate paragraphs with headings, so that reference is greatly facilitated.

Fistula in ano is treated well, and the illustrations are useful from a diagrammatic point of view. Much stress is laid on the possibility of incontinence of fæces resulting even after a single division of the two sphincters, and on its extreme probability when the division is made in more than one place. The directions for the treatment of ramifying, multiple and horse-shoe fistulæ are very practical; and the question of phthisis with regard to operation in these cases is considered. On this point Dr. Gant distinguishes between simple fistulæ in phthisical patients and tubercular fistulæ. Hemorrhoids are fully treated (with the exception of their pathology), and the author expresses his preference for the clamp and cautery, and gives fifteen reasons in favour of the superiority of his own clamp from its being "neat and attractive" to "the best clamp made, for the reason that it exerts equal pressure at all points and under all

conditions.' On constipation the author has much to say, and much that is very true. He pins his faith to what he calls the non-medicinal method, which includes divulsion of the sphincter, abdominal massage, copious warm water injections, regularity in going to stool, dieting, free water-drinking, and other items of less universal applicability.

The numerous wood-engravings in the book are of average merit; but the large chromo-lithographs are hard and crude in outline and colouring, and the majority serve no useful purpose, while the few that might have been helpful are very atypical, and poor representations of the conditions supposed to be illustrated. The zeal for tabular classification has been carried to excess, and becomes wearisomely formal; moreover, it has led in some cases to the inclusion of trivial items, and in others to an imperfect elucidation of points of real importance. Of these defects, the chapter on general symptomatology is one of the most glaring examples, and the result is disappointing and practically unhelpful; it is over-burdened and inadequate. The congenital malformations are made clear by wood-cuts; but the instruction to apply "antiseptic dressings" after operation in these cases is curious. In prolapsus ani and recti the author reverses their accepted relative frequency in adults and children.

For the chapters on cancer of the rectum and colotomy Dr. Gant has come to the old country, and obtained the help of Mr. Herbert Allingham.

The Diagnosis and Treatment of Diseases of the Rectum. By William Allingham and Herbert W. Allingham. Sixth Edition. Pp. xvi., 485. London: Baillière, Tindall and Cox. 1896.

This work is well known, and is evidently useful to the profession. This edition maintains the reputation of its authors. The publishers' part has been well done; the printing of the exceedingly large type and the paper are both excellent, and the illustrations are sufficient. Messrs. Allingham aim at giving us a practical guide to the diseases of which they treat, and we think they have succeeded admirably. There is an excellent chapter on the methods of investigation and examination of rectal cases, and throughout the book the lines of treatment are described with a fulness and attention to detail that, without being dull, add very materially to its practical usefulness. Many valuable hints and suggestions will be found scattered through it, and there is no lack of formulæ and prescriptions for the benefit of the practitioner. The pathology of the various diseases is only described so far as it directly affects their treatment, and this gives a conciseness and unity to the whole that make it very easy reading. The account of the operative treatment of internal hemorrhoids suffers, we think, from over-

crowding. Although the desire to do justice to all suggested methods of treatment is praiseworthy, yet we think the subject would have gained in clearness and practical value by a more personal and less encyclopædic method. The authors express themselves strongly in favour of the treatment by ligature; but while they evince a rather puzzling amount of tolerance for many other kinds of treatment, they are singularly cavalier in their summary rejection of that by the clamp and cautery, considering the high degree of favour it enjoys in many quarters. We confess ourselves greatly surprised at the grounds of their condemnation, and we think their experience of this method must have been singularly unfortunate. Whitehead's method is severely criticised and emphatically condemned.

A large amount of space is allotted to cancer and stricture of the rectum and their treatment, and on the whole the account is excellent. The advice given as to the choice between inguinal and lumbar colotomy seems to us illogical. The superiority of the left inguinal operation hardly needs pointing out and, the risk of infecting the peritoneum apart, it should be the method of election except when the sigmoid itself is affected in its upper or middle portions, or when the cancerous growth affects higher portions of the large bowel.

The subject of congenital malformation is ignored, although it would seem to hold a legitimate place in such a work. In spite, however, of the slight reservations we have made, we can cordially recommend the book to all who have to deal with rectal diseases.

An American Text-Book of Applied Therapeutics. Edited by J. C. Wilson, M.D., assisted by Augustus A. Eshner, M.D. Two Volumes. Pp. 1326. London: The Rebman Publishing Co. (Ltd.) Philadelphia: W. B. Saunders. 1896.

The contents of these volumes are an important contribution to therapeutics, based upon the application of the results of investigation to the uses of the practising physician. Of the forty-two contributors all are American except Laveran, who writes the section on malarial fever, and the late Dr. Beaven Rake, to whom was assigned the responsibility of dealing with leprosy. Notwithstanding the statement in the preface that the work would be issued in one volume, it comes to us in two imposing volumes consecutively paged, an apparent afterthought which is certainly a concession to convenience. The articles composing this work are by no means *farrago libelli*, which forms so large a portion of many text-books on therapeutics, but every statement is made upon a sure scientific basis, not upon empiricism or mere credulity. The separate sections amount to nearly eighty in number, and therefore can not receive a detailed

criticism within the space at our disposal; at the same time we must venture to record that Dr. J. T. Whittaker, of Cincinnati, in the instructive article on tuberculosis, strenuously recommends the tuberculin treatment. Having passed in review the many remedies proposed for tubercle of recent years, he says: "Thus every day sees born a new remedy; a few months pass, and the remedy falls into oblivion." He strongly believes of tuberculin, that "in the dose of 0.00005 gram the remedy is entirely free from danger, and employed in the proper cases, after the method described, is the most valuable of all the single methods of treatment of incipient tuberculosis." As may be expected, Dr. Whittaker approves also of hygienic, climatic and dietetic—especially alcohol, which he prefers to cod-liver oil—modes of treatment in co-operation with tuberculin.

The work is by no means narrowly restricted to the consideration of therapeutics. Etiology and pathology are incidentally considered in an equally scientific spirit, although at much less length. A few excellent illustrations are included, such as those in the articles on diphtheria and diseases of the mind.

The printing and paper are very good, and we have not discovered a single uncorrected typographical error. No doubt some time must have now elapsed since some of the articles were written; occasionally they suggest a deficiency of that "new thing" which, like the ancient Athenian, the modern therapeutist desires to see and hear. But taken altogether we wish to express our sincere admiration and respect for this unique work.

The "Lancet" and the Hyderabad Commissions on Chloroform. Pp. viii., 193. London: The Offices of the *Lancet*. [N.D.]

Three investigations had already been made on the action of chloroform—by the Royal Medical and Chirurgical Society, by the Glasgow Commission, and by the first Hyderabad Commission—when, further to test the finding of the last-mentioned, the members of the second Hyderabad Commission were called together in 1889. After a long course of research, involving experiments on 430 animals, the Commissioners stated that they saw no reason to withdraw from their previously published opinion, and that they had arrived at identically similar results from experiments carried out by all methods and under all conditions that human ingenuity could devise.

For the finding of the first Commission we must refer our readers to the book under review.

In the 1889 or second Hyderabad Commission, we venture to say that the work was conducted in a much more scientific and thorough manner. Monkeys, as nearest approaching the human subject, were employed, as well as dogs and other animals, and the "chloroform administered to them in every

possible way and under every conceivable condition." Diseased and healthy animals were used, drugs were administered in some cases beforehand, large meals were given before the experiment or the dogs were kept starving, the chloroform was given with inhalers or without, in large or small doses, with the animals in all positions, and with the one invariable result that respiration ceased before the heart's beat. In a tabulated form is given the time elapsing between the cessation of respiration and the heart's action in uncomplicated cases, the observations being made partly by auscultation, partly from the movements of a needle inserted into the heart, and partly by observation after opening the thorax. In connection with this it will be interesting to observe that artificial respiration was found to be nearly always efficacious within 28 seconds of the cessation of natural respiration, but in the 18 experiments in which morphia had been previously injected this time of possible recovery was materially shortened. This fact is of much importance clinically, when patients have been largely dosed with opium or its preparations. Over 130 experiments were made with apparatus for recording the blood pressure under the various methods of experimentation, and the tracings, reduced by means of photography, have been included in the report. By these tracings the case for the Commissioners is made much stronger, for anyone can see for himself the exactness of the observations, whatever conclusion he may draw from them.

It is impossible to state in detail the conclusions that the Commissioners came to, but the experiments, conducted, as they were, with the greatest possible care and avoidance of every conceivable impediment to correct observation, and hence incorrect deduction, leave no doubt in our mind that the Commissioners could come to no other conclusion than that which they obtained.

They concluded that "chloroform, when given continuously by any means which ensures its free dilution with air, causes a *gradual* fall in the mean blood pressure, provided the animal's respiration is not impeded in any way, and it continues to breathe quietly without struggling or involuntary holding of the breath . . . but if the chloroform is pushed further, there comes a time, not easy to define, when the blood pressure and respiration will no longer be restored spontaneously, although the heart continues to beat after the inhalation is stopped." Certain experiments were undertaken to observe the effect of stimulation and irritation of the vagus, and they tended to show that irritation—which after all is only over-stimulation—diminished the dangers of anæsthetics, for as the vagi became exhausted the blood-pressure would rise again. The slowing of the heart, following the irritation of the vagus, retards the absorption and conveyance of chloroform to the nerve centres, so that "of itself slowing or temporary stoppage of the heart in chloroform

administration is not dangerous." It is the violent respiratory efforts with bounding heart's action following any asphyxial state that constitutes the danger, for it leads to a rapid and dangerous inhalation of chloroform, and consequent rapid and dangerous fall of blood-pressure. And if "the chloroform is not removed from the face, one or both of two things will happen: (*a*) when the animal breathes again, it takes deep and gasping inspirations, the lungs become filled with chloroform, and an over-dose is taken in with extreme rapidity; or (*b*) when the restraining influence of the vagus is taken off the heart . . . the heart bounds on again, and the circulation is accelerated in proportion. The blood then becomes quickly saturated with chloroform, and an over-dose is at once conveyed to the nerve centres." We think this was a new theory on the action of the vagus in chloroform administration. The facts have been wrongly interpreted before.

The fourteen "practical conclusions" on page 75 form a most useful and succinct *résumé* of the deductions which may be drawn when viewed in a practical clinical light.

To complete the information on the dangers of anæthetics, the proprietors of the *Lancet* initiated a commission on the clinical aspect of the question, Dr. Dudley Buxton having undertaken to marshal the facts gathered. The materials for the report were obtained by sending round a series of questions to all hospitals in the United Kingdom with over ten beds, and to many on the Continent, in India, America, and the Colonies; and the anæsthetics enquired into were chloroform, ether, nitrous oxide, methylene, bromide of ethyl, ethidene dichloride, and various mixtures. An immense amount of information was collected, but the conclusion about the dangers of chloroform did not agree with that of the Commissioners of the second Hyderabad enquiry, for Dr. Buxton found that while chloroform was used more frequently, and the fatalities were proportionately greater from its use than from any other agent, in the majority of fatal cases the heart was stated to have failed before the respiration ceased. Dr. Buxton, however, brings forward the many well-known reasons which make all the difference between an experiment on an animal and the clinical observation on the human subject.

Cardiac failure during ether anæsthesia Dr. Buxton thinks due to the violence of the struggling, and not to the anæsthetic direct, and he expresses his belief, with which we heartily agree, that ether is the safest anæsthetic for general surgery.

This is only a brief outline of the general tenor of the report. Even if we do not accept the finding of the second Hyderabad Commission, the interpretation of their tracings, or the argument that what obtains in animals will probably do so in man, we cannot but admire the patience, perseverance, and skill of the observers, and their admirable and praiseworthy attempts to try and enlighten the many mysteries which obscure the real

dangers attendant on the anæsthetic state. Nor must we forget a word of praise for the trouble the proprietors of the *Lancet* have taken in furnishing the medical profession with such a complete *résumé* of the controversy. Lastly, the thanks of the whole world are due to His Highness the Nizam of Hyderabad for his munificent support in the interests of science.

Report of the "Lancet" Special Commission on the Relative Strengths of Diphtheria Antitoxic Serums. Pp. 59. London: The Offices of the *Lancet*. 1896.

This report, reprinted from the *Lancet*, deals with a subject of considerable importance to those medical practitioners wishing to make use of antitoxic serum in the treatment of diphtheria. Some at least of the disfavour shown in some quarters towards the adoption of this treatment in England may be ascribed to the difficulty in determining the quality and strength of the various makes of serum, a point of considerable urgency seeing that its efficiency depends in great part upon the strength of dose in relation to the early or late period of the disease. "We should appreciate at once," state the Commissioners, "the importance of the fact that a regiment of soldiers had been marched into a malarial district with a supply of quinine which had been so adulterated that the medical man was really introducing only one-fourth the quantity of the drug which he had prescribed owing to the presence of inert material. In the present state of our knowledge it is not too much to say that the influence exerted by the exhibition of antitoxin on diphtheria is at any rate quite as marked as that exerted by quinine on malaria." In any case, it is obviously of great importance to have some trustworthy information as to the strength of our drugs, and such information it is the aim of this report to supply.

Obstetric Accidents, Emergencies, and Operations. By L. Ch. Boisliniere, M.D. Pp. 381. Philadelphia: W. B. Saunders. 1896.

While physiology would have us believe that labour is a natural process, Dr. Boisliniere, a man evidently of great experience in everyday life, writes a fair-sized book dealing only with the accidents which may befall the pregnant and parturient woman, and the mischances which may happen to the unconscious traveller to independent existence.

In the first chapter the causes, diagnosis and treatment of abortion are explained briefly but fully. For stopping the hemorrhage Dr. Boisliniere recommends the tampon, which

may "be left in place from eight to ten hours, and be replaced by a fresh tampon if necessary." In England, as Dr. Boisliniere duly notes, it is now taught that when there is complete placenta prævia and well-marked hemorrhage, expectant treatment ought to be discarded, and delivery had recourse to without delay, for the next hemorrhage may be very copious, and perhaps fatal. Dr. Boisliniere, however, prefers a more expectant plan; viz., the use of tampon, as recommended by Depaul and other French authorities. In accidental hemorrhage, which usually occurs late in pregnancy, it is not advisable to plug the vagina, for it may cause a considerable amount of blood to accumulate within the uterus, which may be large and also wanting in tone, and the result may be fatal. Immediately after considering retention of the placenta he speaks of atresia of the vagina and rupture of the uterus; but why the one very rare condition and the other most rare and dangerous accident should be treated as if they occurred after instead of during labour, it is difficult to understand. In fact, in the second portion of Part I. we meet with a want of method and order, and we find a heterogeneous list of complaints jumbled up together, without any very evident relation to one another as regards cause and effect, which may well confuse a young and inexperienced practitioner. It is, however, a great treat to read, near the end of Part I., the excellent chapter on puerperal convulsions. This chapter is a delightful contrast to those immediately before it as regards clearness, order, regular arrangement, and completeness, especially the last portion, under the head of treatment. One of the best remedies for puerperal eclampsia which our forefathers so firmly believed in and practised, is now gradually gaining its lost ground in America. The abandonment of such a remedy is thus commented on by Dr. Boisliniere:—"In America, discarding the teachings of the old masters—Dewees, Byford, Fordyce Barker, Hodge, Gross, as well as of Lusk—and of the whole English and French schools, and swayed by the modern German authorities, the lancet has almost entirely been laid aside. How many of those who read this book possess a lancet and have been taught how to use it? We do not bleed now because we do not know how to bleed properly." An illustrious school of accoucheurs like that of France has never lost faith in this remedy.

Part II. is very important, for it describes obstetric operations which are rendered necessary by mechanical obstructions to labour, arising from deformed pelvis and untoward positions of the child, all of which may require turning, the use of the forceps, embryotomy, and the *dernier ressort* of midwifery; viz., operations such as Cæsarean section and Porro's operation, laparotomy and symphyseotomy, &c. This part begins with a very able chapter on abdominal palpation, an assistance to early and correct diagnosis which is too much neglected in this country, but in America is appreciated at its true value, or even

beyond it. The well-executed plates which illustrate this chapter are copied from photographs, representing an accoucheur clad in a sort of pinafore, with his shirt sleeves tucked up above his elbows, manipulating the naked abdomen of a woman who lies before him. These pictures are neither ornamental nor useful, for obstetric information of that kind is to be derived from the sense of touch and not of sight. All the obstetric manœuvres involved in version are well described. We think, however, that the rather elaborate chapter which treats of the "extraction of the child" would have come in better in that place if it had been preceded by remarks on natural delivery in cases where the breech, knees and feet originally present. In favourable cases of this kind the child may be delivered without let or hindrance, and without any interference on the part of the accoucheur. If, as frequently happens, such interference should be required, a few plain and concise directions should have been given how to effect this. In Chapter v., which may be considered as the second portion of Part II., and which includes all obstetric operations requiring instruments, the author begins with a good account of the forceps, and its advantages and disadvantages; and this is followed immediately by the "obstetrician's bag," which, as the book is intended for country practitioners, far removed from obstetric aid or advice, contains descriptions of all sorts of instruments and every kind of drug which may be required in the most unusual and difficult cases. It would have been far better, we think, if this had been inserted at the beginning of Part II., or, better still, of the book itself. It is, in fact, an illustration of the want of order and arrangement to which we have previously alluded. This, however, is made amends for by a capital description of various kinds of forceps, and the best mode of using each in exceptional cases. It should be mentioned that in America, when the forceps is used, the dorsal decubitus as employed in France and mostly on the Continent is generally preferred to the usual English position, with the woman lying on the left side. Chapter VI. deals with those formidable operations which require the knife. The account of all these operations is very well written, very interesting and well worth reading; but when the author tells us that his work is meant for a guide-book for a man who is "thrown upon his own resources," and when further on he speaks of the Cæsarean section, and says that "four assistants are necessary, and a nurse to receive the child!" we humbly suggest that these very interesting sections may possibly be a dangerous superfluity, and may tempt some surgical tyro to undertake operations which may easily, under the circumstances in which he is placed, become beyond his power. Besides, in the majority of cases requiring these desperate operations, there is generally ample time for due consideration and transporting the patient to some place where a good hospital would insure all the advantages of thoroughly qualified assistants. The last

chapter of Part II. describes the operation of embryotomy and the instruments required for it.

Part III. includes accidents to the child during labour, diseases and abnormalities, monstrous children, fractured bones during birth, asphyxia neonatorum and umbilical hemorrhage, &c. This part is one of minor importance compared with the first two parts; but though short, it contains much that is very good, and deserves a longer notice than we are able to give it.

Like many of the American works we have seen lately, this book is handsomely got up by the publisher, and deserves much commendation for the excellence of its paper, the clearness of its type, and the great beauty of the numerous illustrations.

Since writing this review we have learned with great regret that Dr. Boisliniere died while his book was being printed. An appreciative notice of his long life and honourable career, accompanied by a portrait, may be seen in Vol. VIII. of the *Transactions of the American Association of Obstetricians and Gynecologists.*

Practical and Operative Gynecology. By J. CLARENCE WEBSTER, M.D. Pp. xiv., 295. Edinburgh: Young J. Pentland. 1896.

This is a useful little book for practitioner and student. It is divided into three parts: Case-taking (including physical examination), minor therapeutic measures, and operative measures. The various directions are given in a very clear and concise manner, and operative details are fairly complete. We do not think that "half a syringeful" (p. 139) is a sufficiently exact dosage for the injection of cocaine or any other drug; and on p. 155 the sterilised salt solution of 6 per cent. should read .6 per cent. It would be better if the figures were referred to in the text itself, instead of leaving the reader to find out the connection between the illustration and the text.

Manual of Diseases of the Ear. By THOMAS BARR, M.D. Second Edition. Pp. xxiii., 415. Glasgow: James Maclehose and Sons. 1896.

The second edition of this work is a great improvement on the former one. The size of the page has been increased, the general type is larger, and bold black type has been introduced for paragraph headings. There are three additional chapters, and the number of illustrations has been doubled. Among the latter are thirty-four reproductions of photographs, many of

which, especially those depicting dissections of the temporal bone, are very good, and likely to prove useful. The work is neither too bulky for the student nor too meagre for the requirements of the practitioner, but is calculated to meet the wants of both.

Among the improvements in this edition we would especially note the additions to the chapters on purulent disease of the ear and its consequences. Operations on the mastoid process and tympanic attic are now described very fully and well, and good descriptions are given of the symptoms and treatment of vascular complications, such as sinus phlebitis and inflammation of the internal jugular vein. We have no hesitation in recommending this book as one of the best and most practical, as well as most readable, on the subject in the English language.

A Manual of Infectious Diseases. By E. W. GOODALL, M.D., and J. W. WASHBOURN, M.D. Pp. viii., 368. London: H. K. Lewis. 1896.

This book is designed chiefly for the use of students, for whom attendance in the wards of a fever hospital is now compulsory; and as a supplement to bedside teaching we consider, after a careful examination of its contents, that it fulfils its purpose admirably. The clinical descriptions bear evidence that the book is written, as such manuals should be, from actual experience, and the remarks on diagnosis, prognosis, and treatment are really practical and helpful. The sections on etiology, though short, are concise and up to date, and give just the information needed for the student or practitioner interested in the causation and methods of spread of the communicable diseases. The diagrammatic figures showing the distribution of the rashes in the exanthemata are specially valuable for teaching purposes, and help to fix the essential points upon the memory. The temperature charts are well chosen and typical; photomicrographs of bacteria illustrate the chapters on diphtheria, influenza, typhoid, erysipelas, and anthrax; and in the appendix is included a summary of the report of the Medical Superintendents of the Fever Hospitals of the Metropolitan Asylums Board on the use of antitoxic serum.

The student who has read this handy and well-printed manual, while he will not know all there is to know about the communicable diseases, will yet have made a very solid addition to his special medical knowledge, and will have little or nothing to unlearn.

In future editions we should like to see cholera included in the scheme of the book, for the possibility of having to deal with this disease is by no means excluded from the outlook of the student of medicine.

A Text-Book of Bacteriology. By EDGAR M. CROOKSHANK, M.B. Fourth Edition. Pp. xxx., 715. London: H. K. Lewis. 1896.

The author of this well-known text-book claims in his preface to have produced "practically speaking a new work;" and a careful comparison with earlier editions will show that this claim is hardly exaggerated. An immense improvement has been effected by the re-arrangement of the matter, and by the incorporation of much new information, in which latter respect the work is well up to date. The removal of the somewhat scrappy accounts of comparatively unimportant species of organisms to an alphabetical appendix, and the systematic description in the body of the work of such forms as have been most thoroughly studied, is a change which, if it increases the similarity to other books covering the same ground, is of unquestionable advantage to the reader. It is perhaps a pity that the descriptions of apparatus are not all collected under one head; but as this is a section very commonly skipped by the student, little harm is probably done. It will appear to many that a rather disproportionate amount of space has been allotted, not perhaps unnaturally, to certain branches to which the author has devoted special attention, notably actinomycosis and smallpox. The latter disease and its relation to cowpox are treated at considerable length, in addition to which there is a copious extract from the report of the Royal Commission on Vaccination: though this matter can hardly be considered irrelevant, it seems a little out of place, considering its debatable character, and the very limited amount of bacteriological information we possess in connection with it. The illustrations continue to be a prominent and successful feature, the best of those which appeared in the earlier editions being retained, and reinforced by the addition of numerous new photographs and wood-cuts. The author may fairly be congratulated on the success that has attended the re-casting of this work, and with a little more judicious pruning of controversial matter the next edition will take front rank amongst text-books on the subject.

A Handbook of Surface Anatomy and Landmarks. By BERTRAM C. A. WINDLE, M.D. Second Edition. Revised and enlarged in collaboration with T. MANNERS-SMITH. Pp. 143. London: H. K. Lewis. 1896.—In common with all teachers of anatomy, the authors of this really excellent little book seem to have found that it is difficult to get any student of that subject to trouble about the anatomy of the surface. Students in Birmingham are evidently in as much haste to "see inside" as students of other schools. From the fact, however, that a second edition has been called for, it is probable that the authors have to a certain extent remedied this. The book is wonderfully free from

mistakes. We would point out a grammatical error on page 14, line 19, and a slip of the pen on page 30, line 21, where the word "coronal" is evidently intended to be "sagittal." In connection with the notice of the ensiform cartilage, the essential importance of taking all measurements from its base should have been emphasised. Several coloured plates have been introduced, and in most cases with advantage; but we scarcely think that figure 11 of the kidney and spleen in their mutual relations and the relations of the former to the vertebral column is accurate—that is, if recent developments be at all correct. The kidneys are much too wide in proportion to their length, and they are certainly too far away from the vertebral column. It would have been well to have given some indication of the position of the kidneys from the front, as most students have but the foggiest notion of it. We think it would have been better had the names of structures to be located been printed in some distinctive type. However, despite these drawbacks, we have no hesitation in strongly recommending the book, and we wish it the success it deserves.

Hints on Elementary Physiology. By FLORENCE A. HAIG-BROWN. Pp. xii., 121. London: J. & A. Churchill. 1896.—This little book is written from notes taken by Miss Haig-Brown from lectures delivered to nurses at St. Thomas's Hospital. It is avowedly written for the help of nurses; but we must frankly confess that we should strongly advise all those who desire some elementary knowledge of physiology to read one of the numerous excellent primers which may be procured, and not to touch this astonishingly incorrect compilation. We are informed that the "heart is situated in the *mediastinum*, or centre of the thorax, in an upper direction from right to left;" that each cavity contains two ounces of blood, and that the function of the chordæ tendineæ is to *open* the valves; that a "*tumour* is a degenerating mass of cells"; that "in the glands of the liver, kidneys and skin the epithelial cells are globular;" that "air exhaled from the lungs will be found to contain . . . no oxygen;" and that one function of the kidney is to "get rid of albuminous matter not used up in digestion." These and other luminous statements concerning the human body, which is truly, according to Miss Haig-Brown, "fearfully and wonderfully made," render the book extremely well fitted to create confusion in the mind of the novice. There are many other errors besides those instanced above, and we are surprised to find that the book is sanctioned and introduced to the public by a physician to a London hospital. The claims of the authoress are, it is true, modest; but ignorance of a subject is no excuse for writing a book on it.

Section Cutting and Staining. By W. S. COLMAN, M.D. Second Edition. Pp. viii., 160. London: H. K. Lewis. 1896. —Dr. Colman's book is a simple and unpretentious one, giving

an account of histological methods. Successive chapters are devoted to hardening processes, section-cutting, section-mounting, and staining-methods, and there are in addition special accounts of the most recently devised stains for the central nervous system and for micro-organisms. To those who do not wish such an elaborate work as Lee's, this book may be safely recommended.

Guide to the Examination in Practical Chemistry for the Conjoint Board. By PERCY A. E. RICHARDS. Pp. 57. London: Baillière, Tindall & Cox. 1896.—This does not profess to be a guide to practical chemistry generally, but follows faithfully the syllabus drawn up by the Examining Board of the Conjoint Colleges. It contains a fairly good description of the tests and processes prescribed, and may be said to fulfil the not very ambitious purpose to which the author has addressed himself.

Royal Infirmary Cliniques. By ALEXANDER JAMES, M.D. Pp. 167. Edinburgh: Oliver and Boyd. 1896.—This series of clinical lectures may be of especial interest to the students of the Clinical Medicine Class at the Edinburgh Royal Infirmary, but the clincal lecture method of instruction is too diffuse for those who have to make themselves familiar with the varieties of medical literature beyond the text-book area. The lectures give an interesting account of many cases; but if every hospital physician is going to publish his clinical lectures, even the world itself would not contain the books that should be written.

The Causes and Treatment of Rheumatoid Arthritis. By SAMUEL HYDE, M.D. Pp. xi., 83. London: John Bale & Sons. 1896.—The writer of these few pages sets out by saying that he will pass over briefly the etiology, diagnosis and pathology of the affection, in order to deal thoroughly with the question of treatment. However, it is found that 36 out of his 80 pages are devoted to these topics. The etiology, symptoms, and diagnosis are discussed along the well-known lines, and nothing fresh is brought forward. The chapter on pathology, in which there are some curious and interesting features, is characterised by the writer's wish to adopt all theories; thus he first gives in his adherence to the theory of a neural cause, he then says that rheumatoid arthritis is due to perverted internal secretions, and lastly, the discovery of a specific bacillus being announced, he says that his "own clinical experience has long suggested" such an organism. The writer is all things to all theories, that he may by all means save—himself. There is nothing very noteworthy in the treatment proposed, and we doubt whether anyone who purchases the book will be satisfied with his outlay.

The Enlarged Cirrhotic Liver. By ARTHUR FOXWELL, M.D. Pp. 30. Birmingham: Cornish Brothers. [1896].—This essay on the two varieties—the non-alcoholic and the alcoholic—of liver-disease is really an analysis of 202 cases. In only seven

out of the total was the liver small; in 90 its size was unchanged, and in 105 it was larger than usual. It appears then that enlargement of the liver is present in more than half the cases of disease of this organ, and that contraction is less characteristic of cirrhosis than is commonly believed, "those cases where diminution is noted being quite the exception."

Our Baby. By Mrs. LANGTON HEWER. Fourth Edition. Pp. vii., 140. Bristol: John Wright & Co. 1896.—So long as Mrs. Hewer confines her advice to what we may call the domestic care of the baby she does very well, but when she enlarges on the troubles that the infant flesh is heir to and recommends dosing with aconite, "bromide" and other drugs, we must express an emphatic opinion that not only has she exceeded her duties, but may lead mothers to the very erroneous idea that with the help of this book they can treat their infants' ailments without skilled advice. In the last two chapters—those to which we presume the "London physician," of whom we read in the preface, has given his attention—there are too many instances of a little knowledge being a very dangerous thing for us to quote, but we must enter our strongest protest against the almost indiscriminate use of brandy for infants which Mrs. Hewer advises. It is a drug of inestimable value when called for, but it may be, and often is, grossly abused, and in our opinion should never be given without the sanction of the family doctor—certainly not on the mother's responsibility.

Notes on the more Common Diseases of the Eye. By ROBERT W. DOYNE. Pp. vii., 47. London: H. K. Lewis. 1896.—The author in his preface explains that "these few pages" are intended for the practitioner who has by him some good text-book of ophthalmology, but who has not sufficient familiarity with eye diseases to enable him to gain much by reading it. Mr. Doyne's booklet is clearly and forcibly written, the treatment recommended is sound in principle, and some of the suggestions are original, though we cannot endorse the method of uniting the lids by a suture which he advises as a cure for spasmodic entropion. Still, the whole shows that the author has appreciated the difficulty of many a doctor in treating a case of eye disease. But he has not met that difficulty in the least. As an introduction to the study of an ordinary text-book of ophthalmology, it is superfluous. As a guide to diagnosis and treatment, it is inadequate—the less the experience of the practitioner, the more minute should be the details of diagnosis and treatment. To take one example out of many: "Discolorisation (*sic*) of the iris" in iritis is vague, and does not necessarily imply that blue irides become greenish; also, it is useless to mention keratitis punctata without saying how it is to be seen and recognised; and the frequency of application, and not only the strength, of atropine drops should be mentioned. The book in various

places seems to presuppose some knowledge of refraction on the part of the practitioner, and the seven pages devoted to that subject contain no guidance for him whatever, and might very well have been omitted. To hint that anyone may safely diagnose and treat tobacco amblyopia without making an ophthalmoscopic examination is, to say the least, injudicious. The style of the book throughout is graphic, and there is very much that is good and to the point; but inasmuch as it is a positive discouragement to the use of the ophthalmoscope, and an attempt to provide a "short cut" to the efficient treatment of eye diseases, we cannot express our approval of it as a whole.

Short Contributions to Aural Surgery. By Sir WILLIAM B. DALBY, M.B. Third Edition. Pp. xi., 143. London: J. & A. Churchill. 1896.—These papers were originally published in the *Lancet* and *British Medical Journal*, and have been since collected in book form. Five additional papers now appear in this edition, making nineteen in all. They are marked by the strong common-sense which characterises the author, and being illustrated by numerous cases drawn from his rich experience they form a valuable contribution to the literature of ear disease.

Voice Production. By PAUL MAHLENDORFF. Pp. 32. London: P. Dabiero. [N.D.].—If there be any confusion of mind as to methods of voice production before beginning the perusal of this pamphlet, it will be worse confounded should the reader be able to reach the last page.

The Consumption of Opium in India. Pp. 51. Calcutta: Office of the *Indian Medical Record*. 1895.—The consumption of opium in India is a subject which has engaged the attention of philanthropists, hygienists, and politicians for many years. There are many excellent and estimable persons who regard its cultivation in India and its sale there and in other countries under the sanction of the Government as a national sin and dishonour. There are others equally worthy of respect who maintain that the moderate use of opium is not only harmless, but in many respects beneficial to the people of India, and that it would be a cruel injustice to prevent its cultivation or to interfere with its sale. A Royal Commission was held in 1893-94 to investigate the whole question. The principal medical member of this Commission was Sir William Roberts. The report which he presented as a member of the Commission was, we may say, entirely favourable to the use of opium. Sir William, it should be remembered, has never been in India, and in this pamphlet it is maintained that this fact should have excluded him from being on the Commission at all. On the other hand, a great deal of the evidence he has collected was from experienced Indian medical officers. Dr. Crombie, of Calcutta, asserts that to deprive the people of Eastern Bengal of opium "would be a terrible and wanton cruelty," for he says it is the only medicine

available for their use when malarial fever is prevalent. The *Critique*, which is the subject of these remarks, utterly denies nearly every statement made in Sir William's memorandum. The opponents of habitual use of opium maintain that the health and the morals of the people suffer from the production of opium. They say that wherever opium is grown, it is eaten, and the more it is grown, the more it is eaten, and that opium cultivation originates the habit in rural districts. The writers of this pamphlet have said all that is to be said against Sir William Roberts's memorandum.

Difficulties under the Infectious Disease (Notification) Act. Pp. 23. London: The *Lancet* Office. 1895.—This reprint of four articles from the *Lancet* contains the points of difficulty which have occurred in the administration of this Act in England. The remarks and suggestions are in general practical and correct.

Report of the "Lancet" Special Commission on the Relative Efficiency and Cost of Plumbers' Work. Pp. 90. London: The Offices of the *Lancet*. 1896.—This booklet, the matter of which appeared in the *Lancet*, should prove of use to architects and others having to deal with estimates and plans for constructional work in house drainage. The work is edited in a practical manner, and the information is generally sound.

Transactions of the Medical Society of the State of New York. Published by the Society. 1896.—A special feature of this volume is the report of discussions, in which special aspects of the question were allotted to different speakers. Among these the two most important and interesting are on cerebral and abdominal surgery. Brain tumours were allotted to Dr. Starr, and his paper is a valuable contribution, based as it is on an analysis of 137 cases culled from all sources, and examined with his own special knowledge of the subject. He concludes that only about 7 per cent. of all cases are operable, although relief of intracranial pressure alone may often give rise to considerable improvement, and may, he thinks, aid the absorptive power of drugs. Focal epilepsy forms another division of the discussion. Starr (who also touched on this) expressed himself as having been disappointed with the after-results of operation, the attacks recurring, whether they were spontaneous or traumatic in origin. Sachs thinks trephining justifiable only in the earliest periods after a traumatic injury before secondary degeneration is established. Among the surgical speakers the bone-flap operation was most favoured. Nothing new or very hopeful could be said for craniotomy for idiocy and imbecility. In the discussion on abdominal surgery Vander Veer reported three cases of intestinal anastomosis by means of Murphy's button, and discussed this and other methods. The dangers of the button were admitted, but he thought that at present it was the best method for circular

enterorrhaphy in the small intestine, or for anastomosis between the latter and the stomach or gall-bladder, but not in the case of the large gut where solid fæces are apt to plug the lumen. The rather startling statement is quoted from Levings, of Milwaukee, that Cushing's or Connel's suture, for end-to-end union, are both speedier methods than that by Murphy's button. For union between large and small intestine, or in resection of the large gut, the author thinks Maunsell's method will prove the best. Cæsarian section and vaginal hysterectomy are also included in the discussion. Among many isolated papers, of varying interest, one of the most interesting (if not quite convincing) is that by Dr. Willy Meyer on the early diagnosis of tuberculosis of the kidney. He affirms the lesion to be always primarily unilateral, reaching the other kidney by passing down the ureter to the bladder and thence up the opposite one. When the caseating matter in the kidney softens and reaches the pelvis of the kidney, it passes on to the bladder, inoculating it around the ureteral opening, and infecting the ureter on the way. If at this stage cystoscopy be practised, Dr. Meyer asserts that by injection around this opening, and "a number of circumscribed, clearly defined, inflamed areas of the mucous membrane . . . . between it and the slightly hyperæmic trigonum," vesical tuberculosis can be recognised in its beginnings. Bacteriological staining of the deposit in the urine will demonstrate the bacillus; and finally Dr. Meyer is convinced that he can (by Kelly's method in the female, and the use of Casper's ureter-cystoscope in the male) collect the urine from each ureter separately, under the direct guidance of the eye. This were, indeed, "a consummation devoutly to be wished." Supposing the diagnosis established, extirpation of the kidney, if done early enough, will result in a cure. Dr. Halsted Myers has a good paper on congenital dislocation of the hip, in which he reviews the various methods of treatment advocated. These transactions form a well-bound and excellently printed volume, and contain (besides matter relating to the routine of the Society) communications ranging over a wide area of medical practice.

Transactions of the Michigan State Medical Society. Vol. XX. Grand Rapids: Published by the Society. 1896.—We have here a substantial volume of over 800 pages, containing the President's address, the annual addresses on Medicine, Surgery and Gynæcology, the reports of several papers read in the Surgical Section and many in that of Medicine and Obstetrics, and the discussions which followed the reading of these papers. Dr. Carl Huber's paper upon nerve suturing and nerve implantation is a record of careful experimental and observational work. He shows that the best method of operating for loss of substance in a nerve trunk is that of implanting a segment taken from another nerve. Better results are yielded by this method than by the others which have been adopted. Dr. C. B. Nancrede gives

details of two large and rapidly-growing tumours of nerve trunks of benign nature which he was able to remove without destroying the continuity of nerves affected. There are three papers on typhoid fever: on the pathology by Dr. Henry B. Baker, on the symptoms by Dr. Hugh McColl, and on the treatment by Dr. Duffield. The advantages of the cold bath treatment in this disease were well brought out in the subsequent discussion. The volume contains many other instructive and interesting papers, and fully deserves an index.

Transactions of the Clinical Society of London. Vol. XXIX. London: Longmans, Green, and Co. 1896.—This volume well maintains the reputation of the Society in presenting a number of clinical cases well worthy of record. Without particularising individual papers, we may say that the cases are uniformly described with great care and thoroughness, so that the reader is enabled to realise the important points of their clinical aspect from the descriptions given. The volume will repay a careful study.

Proceedings of the West London Medico-Chirurgical Society. Vol. VII. London: John Bale & Sons. 1896.—As the Society which is responsible for this volume now issues a quarterly journal, we thought we had seen the last of these belated volumes. This one, bearing on its preface the date of September 30th, 1896, begins with a presidential address on October 5th, 1894, and continues with a report of the other meetings held in 1894-95. As if this were not bad enough, the editors have misprinted the adjourned meeting in November of 1894 as 1893. Sir James Crichton Browne's lecture on "Dreamy Mental States," which occupies more than a fifth of the volume, was issued separately long ago, and was reviewed by us in June, 1896. Although that communication is only one of many interesting papers, the West London Medico-Chirurgical Society might have spent its money in a better way than in printing this book.

Transactions of the American Association of Obstetricians and Gynecologists. Vol. VIII. Philadelphia: Wm. J. Dornan. 1896.—Although it is impossible to notice all the excellent papers in this volume, special attention must be directed to one on the treatment of puerperal sepsis by Dr. A. B. Miller, who advocates an entirely new treatment. He says: "In consequence of the degeneration of the human race and the teaching of the obstetrical art, women are placed in the recumbent posture during confinement and during their convalescence. Owing to the anatomy of the birth-canal only an imperfect drainage can be secured in this posture. The lochia from the womb form a pool in the vault of the vagina, and the cervical neck is constantly bathed by resting in the accumulation. So here we have the broth or suitable culture-medium and the warmth of the body to develop the micro-organisms of puerperal sepsis—an incubator the envy of our most modern bacteriologists." There-

fore the treatment should not be continuous syringing, but dry-packing the vagina with gauze or any suitable material, and changing when necessary to keep the whole tract absolutely dry. This is certainly worth a trial. A paper by Dr. Marcus Rosenwasser on ruptured ectopic pregnancy emphasises what we already know, viz., the absolute necessity of immediate operation when the diagnosis is made. Dr. T. J. Maxwell describes some very interesting anomalies found in abdominal surgery, thereby warning the neophyte to be prepared for any emergency, or avoid the sacred precincts of the peritoneum which have now become "the fools' paradise." We should have liked to have seen the papers better illustrated. The "In Memoriam" portraits are well done. Among them, with an obituary notice, is one of Dr. Boisliniere, whose latest book we have reviewed in another part of this number.

Transactions of the Dermatological Society of Great Britain and Ireland. Vol. II. London: H. K. Lewis. 1897.—In this second report we have about seventeen pages less than in the first one, which should hardly be the case in a growing society; but we must admit there has been some very good work done, and quantity is not everything. The President, Dr. Pye-Smith, in the opening address, claimed for dermatology that it should be considered as a part only of general medicine, and that, therefore, its pathology should be based on the broad and ever-flowing stream of general pathology. Without advocating the absurdities of hydropathy, he claimed benefit from a liberal supply of water, and weak vegetable infusions, as an important part of general dieting in the treatment of various skin affections, and by no means withheld the use of light wines, porter or beer, in chronic dermatitis. We can endorse these opinions, and also the statement that "what most people eat is for most people wholesome, and what a natural appetite finds appetizing seldom disagrees." Brandy in small quantities, in young children with general eczema, is often very salutary. He concluded a very sensible and practical address with a quotation (which we deem very wise) from Hebra, viz.: "He will obtain the best success in treatment who is not always changing his methods, but persists in the use of whatever plan is indicated with patience and determination." Dr. H. Radcliffe Crocker read a paper on the internal treatment of psoriasis, and some other skin affections, with salicylate of soda. He produced good evidence of its efficacy, and his views were well supported by many of the members. A conspicuous feature of the society's work was the exhibition of a large number of patients at the general meetings.

The American Year-Book of Medicine and Surgery. London: The Rebman Publishing Co. (Ltd.). Philadelphia: W. B. Saunders. 1897.—This, the second number of Gould's year-book, is a handsome volume of 1257 pages, profusely illustrated,

and much improved by a new and useful feature, each article being preceded by a brief recapitulation of the "trend and results of the year's work." We cordially endorse the editor's view "that it is precisely this feature that will make the book still more acceptable to those whom the demands of practice leave little time to settle matters of controversy and doubt, and who must therefore welcome the ripe decisions of those most capable of pronouncing them." Among other evidences of progress in general medicine, Drs. Pepper and Stengel call attention to the discovery of the specific cause of the bubonic plague by Kitasato, and the method of Elsner for the diagnosis of typhoid fever, and they remark that "nothing is more refreshing in the study of a year's medical work than the evidence exhibited in the literature of our own countrymen, as well as in that of foreign nations, that experiment and investigation are taking the place of speculation." They further remark that "nothing of moment has been added to the knowledge of the bacillus of typhoid fever or its life-history," and further, "unfortunately, the bacteriologist has hitherto given little aid, and the chemical examinations of the urine and other clinical methods have been unavailing in doubtful cases." Now it is just in those doubtful cases that we are able to derive assistance from the diazo reaction of Ehrlich, and from the bacteriological test of Widal, both of which have given positive results in cases of typhoid, whereas in meningitis the results have with both tests been negative. By some curious oversight those tests about which much has been written during the past year do not appear to have been considered worthy of even a passing mention. We are sorry to be obliged to endorse the remark that "the attempts to apply the methods of serum therapeutics to this disease have thus far met with little encouragement," and we heartily agree in the criticism of Osler that "a greater minuteness of attention to diagnosis might frequently be desirable in the reports of brilliant results." As regards tuberculosis, the authors remark that "little has been added to previous knowledge of this disease by the contributions of the past year. . . . Serum-therapy has been lauded. . . . The evidence, however, justifies no deductions. More laboratory and less clinical work in this direction are desirable." The "antiphthisin" of Klebs, which appears to be a highly diluted tuberculin, has given excellent results in the hands of Von Ruck, but the editors suggest that perhaps the climate of Asheville may be partially responsible for the success. In an extensive work like this it is impossible to avoid omissions, but nevertheless it is remarkable that, under the heading of Rheumatoid Arthritis, there should be no mention of the discovery of a bacillus which Drs. Bannatyne, Blaxall, and Wohlmann believe to be the true cause of the disease. (See *Lancet*, April 25th, 1896.) We must refrain from further comment, and conclude by remarking that Dr. G. Gould and his staff of coadjutors appear to have done their rather difficult task of choosing and condensation with great skill, and

that the editorial comments are for the most part very judicious and useful.

The Journal of Experimental Medicine. New York: D. Appleton and Company.—We are glad to welcome this very valuable addition to our Exchange-list, and to learn that the first year of its existence has been one of gratifying prosperity. It is devoted to the publication of original contributions to the medical sciences from American sources. The expense of publishing it in its present form must be considerable, and we trust that the *Journal* will meet with that extended support which its editor, Dr. W. H. Welch, claims for it, and which it certainly deserves. The first volume contained a great many papers of originality and value, and the opening number of the second volume gives rich promise that the exceptionally high character of this *Journal* will be maintained. This number contains a paper by Dr. H. H. Young on the presence of nerves in tumours as revealed by a modification of Ehrlich's method of staining *intra vitam* with methylene blue. Messrs. G. B. Magrath and H. Kennedy have a contribution on "The Relation of the Volume of the Coronary Circulation to the Frequency and Force of the Ventricular Contraction in the Isolated Heart of the Cat," in which they show that the force of the ventricular contraction varies directly with the change in the amount of blood supplied to the cardiac muscle, whilst the frequency shows no such relation. They further found that distension of the left auricle and ventricle lessened the flow through the coronaries, and that a heart from which the blood-supply had been almost entirely cut off showed "staircase" beats, which gave place to normal contractions as the circulation through the cardiac muscle was restored. An account of an elaborate investigation into the time of reflex winking is given by Mr. David P. Mayhew. He found that in 450 experiments on sixteen subjects the mean total time was .042 sec. Natural winks occurring shortly before the record was taken had no influence. Apprehension seemed to shorten the time. Dr. F. Pfaff and Mr. Alfred Balch contribute a full report of analyses of human bile, and the effect of some drugs on its secretion in a case of biliary fistula following cholecystotomy. They are inclined to attach value to the administration of dried ox bile as a cholagogue, as well as in certain cases of constipation, and possibly in cases in which it is desired to increase the absorption of fat. They direct that .25 gramme of dried ox bile should be made into a pill, and from six to fifteen pills given in the day. Articles on "The Influence of Phloridzin on the Bile and Lymph" by Dr. P. A. Levene, and on "The Gelatin from White Fibrous Connective Tissue" by Mr. Van Name, make up an interesting number. The excellent type, good illustrations, and, we may add, freedom from advertisements, make the *Journal* pleasant to read.

Treatment. London: The Rebman Publishing Co., Ltd.—We are not much inclined to think that the medical world stands in need of a periodical such as this, the first number of which was issued in March. Each number consists of 24 pages, and the journal is to appear twice a month. The original articles are short and practical, but the abstracts are too much of the "scissors and paste" type. The shabby appearance of the journal is altogether unworthy of the house associated with the magnificent "Blue Cover" Series in which so many excellent volumes have been issued recently.

La Revue Philanthropique. No. 1. 10 Mai, 1897. Paris: Masson et Cie.—We have to welcome this monthly magazine, which, under the editorship of M. Paul Strauss, is destined to give many a lesson in universal philanthropy. It opens with an editorial programme, truly described as vast, and embracing a widely extended range of topics. A chapter on Fraternity deals with the tragic occurrence of the Charity Bazaar of the Rue Jean-Goujon, and another chapter on Philanthropy informs us that our Diamond Jubilee is to be distinguished "par la fondation d'un hôpital qui portera le nom du Prince of Wales" (!). A chapter on the feeding of infants advocates the habitual use of sterilised milk. It appears to us that this review is likely to lead a very useful life, and we trust that it may be a prosperous and protracted one.

Clinical Excerpts. Elberfeld: Friedr. Bayer & Co.—It was a happy idea of this well-known firm to send out monthly, beginning in January this year, a collection of reprinted articles dealing with the preparations issued by them. When these articles are independent they form a valuable guide to many of the new drugs by which the practitioner is so often tempted. A neat reading-case is supplied in which all the numbers can be kept for reference. This enterprising firm will doubtless be quite ready to send the numbers to anyone asking for them.

Notes on Preparations for the Sick.

Colchicine Salicylate Capsules (TROCHET).—B. KUHN, London. —Each of these capsules contains quarter of a milligramme of colchicine dissolved in 20 centigrammes of salicylate of methyl, from betula lenta. They are made by Trochet. of Paris, and are as excellent in appearance as the combination of colchicum and methyl salicylate should be in action. Eight to fifteen capsules may safely be given in the day, and should give more trustworthy and uniform results than the ordinary preparations of colchicum and artificial salicylic acid.

Apenta.—THE APOLLINARIS CO., LIMD., London.—The Apollinaris Company have now acquired the control of another natural bitter water drawn from springs at Buda Pest. The following analysis has been supplied to us:—

Parts per 1000.

Sulphate of Magnesia ...	24.4968	Bicarbonate of Lime ...	0.8843
Sulphate of Soda	15.4320	Bicarbonate of Protoxide of Iron	0.0189
Sulphate of Lime	1.0989		
Chloride of Sodium ...	1.8720	Silicic Acid	0.0100

The springs have been placed under the absolute control of the Royal Hungarian Chemical Institute. It will be seen that the sulphates of magnesia and soda are the principal ingredients. The water is agreeable to the palate, and is a most efficient saline aperient.

Humanized Milk; Peptonized Milk; Sterilized Milk; Muffler's Food; Whey.—THE AYLESBURY DAIRY COMPANY LIMITED, London.—This well-known firm has for a considerable time prepared a milk to take the place of the baby's natural food. The samples of **Humanized Milk**, which came to us in air-tight bottles, we found perfectly sweet, even after keeping some time. This is an important point if a supply is needed at some distance from London. Its composition has been proved by analysis to as nearly resemble maternal milk as an artificial production can; and we can recommend it as a nourishing and sound food for infants.

The **Peptonized Milk** is also perfectly sterilised; but we detected the slight peculiar taste so often noticed in these predigested milks. The infants to whom we gave it took it readily, and throve well on it.

The **Sterilized Milk**, prepared without the addition of any chemical body, is an exceedingly valuable preparation. The demand for this preparation should be great; for we believe that the profession is awakening to the value of sterilised milk. The milk has practically no "scalded" taste.

If the analysis of **Muffler's Food** given by the Company is correct—and we do not for a moment doubt it, though we have not tested it in the laboratory—it is, perhaps, the best of these foods in the market. The carbohydrates are present in very large proportion; and the percentage of albuminoids and fats is remarkably high. This food must certainly be more nourishing than many that are more commonly used.

The demand for **Whey** is not, we believe, great; but as this

variety is prepared without the addition of acid, and is free from fat and casein, it should supply a want.

Beef Juice.—ARMOUR & Co., London.—This beef juice has a dark colour, a viscid consistence, and when diluted five times has a gravity over 1030, with soluble albumen amounting to 0.5%, as estimated by the picric acid tube, so that the undiluted fluid contains 2.5% of soluble albumen. There appears to be no excess of salt. Diluted with soda water, sherry, or port, it forms a most nourishing and acceptable drink for those invalids who cannot take more solid foods, and whose debility necessitates the use of concentrated soluble food.

Peptarnis.—LIEBIG'S EXTRACT OF MEAT COMPANY, LIMITED, London.—This preparation contains nearly 50% of albuminous matter, consisting practically of equal amounts of albumose and peptone, the total nitrogen amounting to nearly 10%. It is quite free from the unpleasant taste and odour which have commonly been associated with the presence of peptones, and it does not contain any deleterious preservatives. We have in this preparation a concentrated, digested, soluble food, with a pleasant aroma and a flavour which is not likely to nauseate even the most fastidious invalid. It is a brilliant success, and should soon become popular.

As an indication that the Liebig's Extract of Meat Company still maintain a leading position as manufacturers of invalid foods, we are glad to observe that at a meeting of the Harben Nomination Committee, held recently in connection with the British Institute of Public Health, Professor Max von Pettenkofer, Scientific Director of Liebig's Extract of Meat Company, was nominated Harben Gold Medallist for 1897. The medal was founded in 1895 by Henry Harben for the recognition of eminent service to the public health, and one presentation is made every year.

Litmus Pencil.—THOS. CHRISTY & Co., London.—This pencil is constructed of pure blue and red litmus inserted at the two ends of an ordinary wood pencil. It is said to be capable of detecting one part in a hundred thousand, whereas the ordinary litmus paper can only detect one part in fourteen hundred. For use, the ends are sharpened—the one for acids, the other for alkalies; the pencil is moistened, and with it are made marks on a strip of white paper, which is inserted into the fluid to be tested. We have found that it acts quite in accordance with expectations.

Bristol Medico-Chirurgical Society.

March 10th, 1897.

Dr. A. E. Aust Lawrence, President, in the Chair.

Dr. Barclay Baron showed a lady who consulted him for aphonia, due to multiple papillomatous growths occupying the edges of the vocal cords in their anterior part and the anterior commissure. These were removed with forceps at several sittings, and the site of the growth cauterised with the galvano-cautery, but recurrence occurred with considerable rapidity, and the more the larynx was interfered with the more rapid was the recurrence. Feeling that no endolaryngeal treatment was likely to be of any avail, and being struck with the quite unusual rapidity of the new growth, and in spite of the microscopic examination revealing innocent papillomatous growth, he sent her to Mr. Butlin, who, after removing a piece of growth and examining it microscopically finding it to be of quite innocent structure, agreed with Dr. Baron that thyrotomy was the only means of eradicating the growth. This operation he accordingly performed, removing the warts and cauterising the sites of growth afterwards. The operation was quite successful, except that a web formed which unites the anterior third of the edges of the vocal cords, occupying the former site of the growths. The respiration is good, but the voice is very weak, though not quite aphonic. There are two points of interest in the case: (1) The quite unusual rapidity of recurrence. (2) The danger of web-formation ensuing after thyrotomy for removal of papillomata. We ought to look at the larynx during the progress of healing of the thyrotomy wound, and if agglutination of the vocal cords is taking place, we can then dilate by means of bougies and prevent web-formation.—Dr. P. Watson Williams remarked that this case illustrated some of the unavoidable difficulties and complications which sometimes ensued on the comparatively simple operation of thyrotomy and the great desirability of removal by intralaryngeal methods wherever possible. The fact that these complications were sometimes unavoidable in adults pointed a moral in cases of simple papillomata in children. Unfortunately from their usual site being the anterior third of the larynx, it was often impossible by any means to obtain a good view of the seat of the growth under general anæsthesia, and under such circumstances it was very tempting to gain access to the growth by thyrotomy. But if in adults with a fully developed larynx it was often impossible to avoid injuring the action of the vocal cords, the difficulties and dangers were far greater in young children. Our rule therefore should be to postpone operation in children until they have arrived at the time of life when they can exercise sufficient self-control to permit of intralaryngeal operation in the usual way, and if dyspnœa be present tracheotomy should be performed to allow of such postponement, unless intralaryngeal removal can be accomplished by resort to the laryngoscopic methods of Lambert Lack or Scanes Spicer.

Mr. C. A. Morton showed: (1) A patient with Charcot's disease of the hip-joint. There was enormous effusion of fluid in the joint, and the articular surfaces were separated to a considerable extent. Signs of tabes were well marked. (2) A patient with aneurysm of the third portion of the subclavian artery. For two and a-half months the patient had been kept at absolute rest, direct pressure was applied to the sac, and chloride of calcium administered in large doses. Under this treatment it had decreased in size. (3) An old man with a large warty growth on the tongue. (4) A man with several nodules on the dorsum

of the tongue associated with general leucoplakia of the organ. (5) A young man with hypospadias. The urethra opened at the junction of the penis and scrotum. A plastic operation had been performed to lengthen the under surface of the penis as a preliminary to one for the construction of an urethral canal. (6) A child with an enormous (? fatty) growth in the thigh. It was well defined above towards the groin, but seemed to blend with the subcutaneous fat on its lateral aspects.

Dr. MICHELL CLARKE showed: (1) A boiler-maker, aged 58, suffering from athetosis. The movements affect the fingers and toes, are most marked on the left side, and exactly resemble those originally described by Dr. Hammond under this name. The movements dated from four years ago, when the patient suffered from loss of power in the limbs, twitching of the muscles of the left arm, leg, and side of the face, with difficulty in speech, and some mental disturbance. He recovered after a month's illness; but in May, 1896, he had a fresh attack of muscular twitchings on the left side, together with much mental disturbance and delusions. There is now no hemiplegia, nor sensory disturbance, but there is some ataxy of movement of the limbs generally. The visual fields are normal. The movements continue during sleep. An interesting feature in the case is the greatly diminished left knee-jerk. (2) A man, aged 53, with signs of amyotrophic lateral sclerosis. The illness began twelve months ago, with gradually increasing loss of power in the right thigh, first felt by difficulty in going upstairs. Muscular atrophy affects chiefly the right muscular quadriceps extensor femoris, next the right calf muscles. The wasted muscles and also those of the left thigh and calf show altered electrical reactions. There is a well-marked muscular rigidity in the right, less marked in the left lower extremity. Both knee-jerks are exaggerated, the right very greatly. There is no affection of sensation nor of the sphincters, and the upper extremities are normal. With three months' rest in the hospital, electrical treatment and the administration of cod liver oil, arsenic and iron, the affected muscles improved very much. Strychnine was found to increase the rigidity. Since leaving the hospital the paralysis and wasting have made steady progress.—Dr. E. LONG FOX called attention to the possibility of convulsion being of use in the diagnosis between athetosis and post-hemiplegic chorea of children; this latter symptom depending usually on sclerosis of part of the cortex.

Mr. W. H. HARSANT showed a specimen of cancer of the œsophagus opposite the arch of the aorta, taken from a patient on whom gastrostomy had been performed three months before death. The operation had been perfectly successful, and had given the patient three months of comfortable existence without any of the troublesome after-effects of this operation—such as leakage—which are sometimes described. The patient died suddenly without any ascertained cause.—Dr. LACY FIRTH said that of the special operations to prevent leakage after gastrostomies which had been recently devised, the operation of Albert seemed the best.—Dr. WATSON WILLIAMS alluded to the long duration of minor symptoms which might eventually culminate in well-marked malignant disease of the œsophagus. He mentioned a case he had recently seen in consultation. The patient first had definite œsophageal obstruction eighteen months before. The obstruction had passed off considerably, so that it had only become a noticeable symptom seven weeks prior to Dr. Williams's examination. Even then the œsophagus readily admitted a No. 16 bougie, and the symptoms did not permit of a definite diagnosis, but within the next seven weeks the patient died with a well-marked growth and considerable glandular enlargement. Dr. Watson

Williams had met with other similar instances.—Mr. HARSANT, in reply, said he considered that if the tube accurately fitted the opening, there was no fear of leakage.

Professor FAWCETT showed: (1) A skull in which the left lateral sinus had evidently been quite absent, a somewhat uncommon condition. The posterior condyloid foramen was large on that side. (2) A specimen of Meckel's diverticulum, which presented the usual features. (3) A four months' fœtus, which had been expelled along with placenta and membranes entire. (4) Two dissections of the brain, one showing the third ventricle remarkably well, the other displaying the whole length of the nucleus caudatus. Both were hardened and preserved in a 5 per cent. solution of formalin. (5) A dissection of the forearm and hand by Mr. E. M. Pearse. (6) A new model of the deep abdominal viscera, devised by Professor A. Birmingham of the Catholic University of Ireland, and which had been presented to the anatomical museum by Dr. E. Long Fox. Professor Fawcett also described the dissection of the anencephalous monster which had been shown at the meeting in March, 1896 (see *Journal*, 1896, xiv. 192). There were remarkable peculiarities in connection with the nerves (spinal) and the abdominal viscera, an account of which Professor Fawcett hopes to publish later.

Dr. W. H. C. NEWNHAM showed a specimen of ruptured tubal pregnancy.—The PRESIDENT and Dr. WALTER SWAYNE commented on this case (see pp. 152-4).

Mr. C. W. J. BRASHER reported "A Case of Division and Ligature of the Vasa Deferentia for Prostatic Hypertrophy," in a man of 87, who had suffered from dysuria for some years, and had had before the operation complete retention of the urine for a fortnight. For some weeks after the operation, the patient suffered from a good deal of mental depression; the catheter was required for six weeks, but it has never been needed since. The prostate was about half its former size two months after the operation.—Mr. PAUL BUSH related the case of a man over 80 years of age, who came to him some three months ago suffering from an enlarged prostate and commencing cystitis: the patient was then obliged to draw his urine off from forty to fifty times a day, and frequently went to sleep with a catheter in his bladder. Mr. Bush ligatured and divided both vasa; the wounds healed in a week, and within three weeks of the operation the prostate was reduced in size by one-half. When last seen the patient was passing his urine only five or six times in the twenty-four hours, and had discarded the use of the catheter. There were no mental symptoms.—Mr. C. A. MORTON drew attention to the fact that in some cases of marked prostatic hypertrophy, in which retention occurred, the power of voluntary micturition may return after a considerable time. He had lately in the hospital an old man of 80, with an enormously hypertrophied prostate, who recovered the power of micturition after four weeks of absolute retention. He left the hospital passing a fair amount of urine at each act of micturition.—Mr. BRASHER, in reply, remarked that the return of the power of voluntary micturition was a thing that one often observed; but these cases were probably cases of prostatic hypertrophy complicated by a more or less acute prostatitis, rather than hypertrophy pure and simple.

Mr. MUNRO SMITH narrated "A Case of Dislocation of the Peronei tendons of the Right Leg," in a labourer aged 50. The displacement appears from the history to have come on gradually, and caused sufficient pain to greatly interfere with his work. An attempt was made to keep the tendons in position by an apparatus, but unsuccessfully,

and an operation was performed in which the sheath of the tendons was sutured firmly to the fascia. This improved matters, but did not enable the man to work without inconvenience. It was therefore decided to do another operation. The sheath was exposed and constricted in several places with carbolic sutures, and then sewn to the firm fascia behind the groove. A piece of the periosteum was then peeled off the external malleolus, and fastened to the fascia behind the sheath. The man made a good recovery, and after being kept in plaster for four weeks returned to his work, which he can now manage without pain. (This case is more fully reported in the *British Medical Journal* of May 15th.)

April 14th, 1897.

Dr. A. E. Aust Lawrence, President, in the Chair.

Dr. J. E. Shaw showed a patient, aged 27, suffering from catalepsy, associated with melancholia. The mental condition had developed between Michaelmas and Christmas, soon after which she had become quite cataleptic, remaining in whatever position she was placed, refusing to speak or swallow food. She was always cleanly in her habits. Lately she had been making improvement under massage, strychnine and cannabis indica for medicine, and moral treatment. Though never speaking to strangers, or manifesting physiognomically any mental condition, she is acutely sensitive to what is said to her.

Mr. C. A. Morton showed: (1) A woman, aged 30, from whom he had removed the scapula for a large sarcomatous growth last November. The body of the bone had been broken up and partly destroyed by the enormous growth, but the region of the glenoid cavity and coracoid process was quite free from growth, and so the head and coracoid process were preserved. Special precautions were taken to avoid shock, and this was not marked, nor was hemorrhage serious, the subclavian artery being controlled by digital pressure when the tissues in the neighbourhood of the subscapular artery were divided; the power of movement in the arm is remarkably good. (2) A young man who had suffered from severe attacks of pain in the groin and abdomen associated with an imperfectly descended testicle. The testicle had been transplanted into the scrotum.

Dr. Barclay Baron showed: (1) A case of primary lupus of the nostrils and palate, occurring in a lad 16 years of age, who complained of obstruction and discharge from the left nostril of three months' duration. On examining the nose, it was found that there were masses of pale nodular growth on the anterior part of the septum, the floor of the nostril and the inside of the ala nasi. There was also the same condition in the right nostril, although not so extensive. The uvula was irregularly thickened at its base, and on the naso-pharyngeal surface there were nodules on the uvula and on the palate to the left side of its base. The larynx was quite healthy. The patient had no skin affection and there was no history of such trouble in his family, nor was there any history of phthisis. Dr. Baron, who laid stress on the rarity of this case, occurring as it does without skin affection, recommended free curettement and the application of lactic acid, which had been quite successful in two other cases of an exactly similar character. Care should be taken to remove with the sharp spoon only the diseased tissue, in order to get as little cicatrisation as possible. Recurrence will take place again and again, but eventually cure may be expected. Tonics, such as cod liver oil and arsenic, are useful adjuncts. (2) A case of congenital syphilis in a child 8 years

old, who had, as the result of ulceration in the palate and pharynx, extensive web-formation which reached from the palate to below the level of the arytenoid cartilages, and formed a complete membrane except in one place where there was a hole as large as a threepenny-piece. It was thought wise to do nothing for the case, as the only trouble from which the child suffered was regurgitation of fluids into the nose occasionally.—Dr. WATSON WILLIAMS remarked that cases of primary lupus of the nasal passages were undoubtedly rare. He compared the case under discussion with one he had recently shown, in which a circumscribed sessile, bluish-pink, succulent-looking growth was seen on the right side of the septum strongly resembling a sarcomatous growth, but which on histological examination after removal proved to be a tuberculous growth caseating in the centre. The patient, residing at Bath, did not return for some time, when it was found that the tuberculous deposit had extended to the other nasal passage and then closely resembled the case just seen. The almost universal experience of rhinologists was that although eradication of the disease might be attained by curettement and the application of nitric, chromic, or lactic acid, or the galvano-cautery, there were many cases in which the disease continued to spread despite the most thorough treatment, and his experience accorded with these views.

Dr. WATSON WILLIAMS exhibited: (1) A case of coarse tremor of the vocal cords. (2) A case of early malignant disease of the epiglottis and right ventricular band. When first sent to him on February 12th, 1897, the glandular infiltration below the angle of the jaw and in the sub-maxillary region was so far advanced as to preclude any hope of surgical removal being attended with any success. (2) A specimen of aortic aneurysm, which was especially interesting as it showed the value of laryngoscopic examination in the diagnosis of intrathoracic tumours. The patient, a man aged 55, came to his out-patient department at the Royal Infirmary on March 22nd last, complaining of hoarseness. True it was that further examination elicited the fact that he had a cough and suffered from dyspnœa, but it was the hoarseness that had attracted his attention. Examination of the larynx revealed abductor paralysis of the left vocal cord and the internal thyro-arytenoid muscle was just beginning to go (Fig. 1), and this, in the absence of any appearance of local disease in a patient past middle life, pointed strongly to aneurysm. The heart's apex was then observed to be displaced downwards and outwards, a soft systolic bruit could be heard over the aortic and pulmonary areas, the aortic second sound being accentuated. Well-

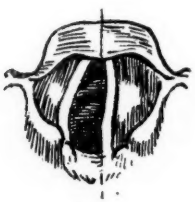

FIG. 1.

FIG. 2.

marked tracheal tugging could be felt and seen, the trachea being dragged down and to the right with each systolic beat of the heart. With the patient in bed, diffuse pulsation of the anterior chest wall was made

out. After a few days interval, the internal thyro-arytenoid muscle on the left side became completely paralysed, so that the glottis assumed the appearance shown in fig. 2. The diagnosis then made of aneurysm of the transverse portion of the arch involving the left extremity and causing pressure on the left bronchus, was supported by the physical signs of deficient breath-sounds over the left lung and confirmed at the *post-mortem* examination on April 14th.

Mr. MUNRO SMITH gave the details of an abdominal section he had made on a python for intestinal obstruction. The animal had not eaten for nine months and was very emaciated. On November 20th, 1896, an incision was made and the bowel found very distended, forming a globular tympanitic swelling as large as a football. As no growth or other obstruction could be found, the gut was opened, and a quantity of foul gas evacuated. Then the wound in the bowel was stitched up with catgut and the skin wound with silkworm gut. A few weeks later the wound in the bowel broke down and some fæces passed through it. On January 3rd, the animal ate a guinea pig, and since then has eaten fairly well and passed fæces through the natural cloaca. The wound has healed. It is doubtful what the actual cause of obstruction was.—Dr. A. J. HARRISON said that his experience in somewhat similar cases had not been so satisfactory. He had seen this python frequently since the operation. There could be no doubt about the establishment of the natural passage, because quite recently the animal had passed large masses of fæces through the cloaca.

Dr. W. H. C. NEWNHAM read notes of "A Case of Puerperal Eclampsia." A married woman, aged 22, who was nearly nine months pregnant, had been seized on the afternoon of Dec. 17th, 1896, with convulsions. Chloral and bromide of potassium had been administered in fairly large doses without producing any good effect; the woman was perfectly unconscious and the convulsions were occurring every few minutes. The urine had been found to contain a large quantity of albumen. Chloroform was then given by Dr. Burroughs, who had sent for him, and he began to dilate the cervix; there was no sign of commencing labour. First getting one finger into the cervix, then two, next three and so on, he dilated with his hand sufficiently to get the forceps on to the presenting head and without much difficulty delivered a dead child, the whole operation from the time of beginning dilating with one finger taking only 35 minutes. She had no further convulsion and was quite conscious the next morning. From this time she made an uninterrupted recovery. Her pulse was much too feeble for either venesection or pilocarpin. In every case of repeated convulsions we shall do the best for our patient if we simply empty the uterus.—Dr. WALTER SWAYNE said Dr. Newnham's case appeared to be one in which the treatment adopted was the only one admissible; there is no doubt that when convulsions recur frequently and the pulse and temperature are rising rapidly, immediate delivery is the only treatment. There is considerable divergence of opinion as to the treatment of these cases. The adoption of any routine treatment appears to be a mistake. Prophylactic means will succeed in many cases if undertaken sufficiently early and methodically. The examination of the urine in pregnant women, especially in primiparæ, should be a matter of routine. It has been noted that in patients suffering from albuminuria who are constantly sick throughout pregnancy, eclampsia is rare if not unknown: this seems to show the influence of the digestive functions in adding toxic products to the blood.—The PRESIDENT stated that he considered each case must be treated on its merits, and that this was certainly one for

immediate delivery. He also said that if in a given case of puerperal convulsions the use of chloral and chloroform did not check the convulsions then delivery should be undertaken.—Mr. S. H. SWAYNE reported a case he attended in 1863, where finding the patient was plethoric and the urine loaded with albumen, he bled her freely, with the result that consciousness soon returned with no recurrence of convulsions. In about a week natural labour set in, and she was delivered of a healthy living child; the convalescence was normal.

Dr. LACY FIRTH read a paper on "Respiratory Paralysis from Intracranial Pressure." (For this, and the discussion which followed, see pp. 139-45.)

Dr. MICHELL CLARKE read the account of "A Case of Acute Miliary Tuberculosis treated with Antistreptococcic Serum on account of the Presence of S. Pyogenes albus in the Blood." (For this, and the discussion which followed, see pp. 148-51.)

May 12th, 1897.

Dr. A. J. HARRISON in the Chair.

Mr. JOHN EWENS showed a case of congenital deficiency of both fibulæ and fourth and fifth toes of each foot, with extreme talipes calcaneo-valgus, in a boy nineteen months. The patient, the subject at birth of a breech presentation, was brought to the Children's Hospital when six weeks old. The right foot was then operated on; the left five months later. The tendons of the tibialis anticus, ext. long. pollicis and digitorum, and peronei were cut. It was then found necessary to divide the tendo Achillis, which, drawn out of its normal position, acted as an evertor of the foot. Plaster-of-Paris, and subsequently poroplastic splints were used to maintain position. A light steel apparatus has been used for some months, enabling the child to walk. The comparative rarity of this form of talipes was commented on, and quotations from writers on orthopædic surgery, and papers in the Pathological Society *Transactions*, were adduced. Stress was laid on the depression, or dimple, always found on the most prominent point of the tibial curve. The exact cause is not clear, but it is probably due, according to Mr. Tubby and others, to intra-uterine compound fracture of the tibia. It has, however, been attributed by Nélaton to adhesion of the contracted amnion to the skin of the prominent point where naturally the uterine pressure is greatest, but this does not seem a very satisfactory explanation. Cases of partial deficiency of the fibula were referred to. In all cases of talipes calcaneo-valgus there is a deficiency of two or three of the outer toes, due probably to pressure of the uterine walls preventing development, and there is often irregularity of the tarsal bones.

Mr. C. A. MORTON showed a man aged 40 from whom he had excised the upper three inches of the tibia, containing a myeloid sarcoma, and a corresponding length of the fibula, and screwed the shaft of the tibia to the lower end of the femur, from which he had removed a third of an inch. No vessel or nerve of importance was injured, not even the anterior tibial artery as it passed between the bones. There was four inches of shortening, but with a high-soled boot the patient was able to walk fairly well, three and a half months after operation. Mr. Morton referred to the fact that myeloid sarcomata were often removed together with the portion of the bone in which they grew, when the bone affected was not the main bone of the limb, as in the

lower end of the radius or the fibula; but so far as he knew no portion of either the tibia, femur, or humerus had been previously removed for myeloid sarcoma, and the portions of bone above and below fixed together as in this case, but the limb had always been amputated. It was not the fear of recurrence which had deterred surgeons from such conservative surgery, as it was a very well-established practice to excise the portion of bone containing the myeloid sarcoma, rather than to amputate, where the bone affected was not the main support of the limb, but it was rather the fear that removal of a large portion of such bones as the femur or tibia would render the limb useless. This case proved that the fear was groundless, and that amputation need not be done. The portion of bone removed, containing the sarcoma, and a microscopic section of it, were shown.—Mr. EWENS hoped that Mr. Morton would be able to report favourably on the case at the end of a year.—Dr. JAMES SWAIN wished to add his testimony to the method of securing the bones. Steel pins had been used at the Bristol Royal Infirmary for some years in cases of excision of the knee, and there was no method which gave greater fixation, saved the patient from more pain, or was more likely to be followed by osseous union.—Mr. MORTON, in reply, said that amongst sarcomata of bone, myeloid sarcoma occupied a position which was clinically, as well as histologically, totally different from other forms. It did not tend, as a rule, to recur after thorough removal, and so much was this the case, that Bland Sutton had in a paper in the *Edinburgh Medical Journal* for February proposed that they should no longer be called sarcomata, but should be separated from this class and henceforward named myelomata. Mr. Morton thought the patient he had shown was not likely to get any recurrence.

Dr. W. J. FYFFE read a paper on "Fifteen Years' Experience of Infectious Diseases in a Public School." (This will be printed in a future number.)

Dr. J. E. SHAW gave the record of "A Case of Hæmophilia with Joint-lesions." (This will be printed in a future number.)

Dr. G. PARKER showed a specimen of hæmato-porphyrin and its spectra from the urine of a patient suffering from lead poisoning. He mentioned that this substance, which was the colouring matter of blood without the iron, though common enough in very minute quantities even in healthy urine, was very rarely found so abundantly as to colour the water a deep port wine colour, as in this instance. It had been observed in various diseases, such as rheumatism, phthisis, and pericarditis, and more particularly after taking sulphonal and trional. In the cases following the use of drugs fatal coma had sometimes been observed, though in others there were no bad symptoms. Hence the practical importance of recognising its excretion. Very little was known as to the way in which it was formed, but probably in some persons sulphonal acted as a corrosive poison. The only treatment which seemed to arrest the process was the administration of large doses of alkalies, though arsenic had also been suggested. This patient had suffered from a second and very rapid attack of lead poisoning just after influenza, with colic and wrist-drop in three days. About the fourteenth day hæmato-porphyrin was noticed, and when the excretion was at its height, severe abdominal pain was felt a little below the end of the spleen. Painful micturition with slight retention came on, but lasted a very short time, and the water became of a dark red colour, acid, without any blood corpuscles, albumen, or reaction for iron or blood. She was then taking

iodide of potassium and sulphate of magnesium. Later on a second attack came on during another course of iodide. Lead was found by Mr. F. Stoddart in the urine, and the distribution of the paralysis was that of typical lead poisoning. When the first excretion of the pigment occurred heart failure was very marked, and the patient's state was for a time critical; but a satisfactory recovery was made, and the muscles soon regained some degree of power. The acid and alkaline spectra were shown, as well as the urine which remains undecomposed for a long period. The dark band between D and E in the acid spectrum was strongly marked and was demonstrated.

J. PAUL BUSH, *Hon. Sec.*

The Library of the Bristol Medico-Chirurgical Society.

The following donations have been received since the publication of the list in March:

May 31st, 1897.

American Public Health Association (1) ... ... 3 volumes.
George M. Gould, M.D. (2) ... ... 18 ,,
L. M. Griffiths (3) ... ... 2 ,,
C. B. Keetley (4) ... ... 2 ,,
Laryngological Society of London (5) ... ... 1 volume.
Pathological Society of London (6) ... ... 2 volumes.
Young J. Pentland (7) ... ... 2 ,,
Royal Academy of Medicine in Ireland (8) ... 1 volume.
R. Shingleton Smith, M.D. (9) ... ... 3 volumes.
Smithsonian Institution (10) ... ... 1 volume.

Unbound periodicals have been received from Mr. C. B. Keetley.

TWENTY-FOURTH LIST OF BOOKS.

The titles of books mentioned in previous lists are not repeated.

The figures in brackets refer to the names of the donors, and show by whom the volumes were presented. The books to which no such figures are attached have either been bought from the Library Fund or received through the *Journal*.

Allbutt, T. C. [Ed.] *A System of Medicine.* Vol. II. 1897
Anderson, J. ... *Medical Nursing.* (Ed. by Ethel F. Lamport) 3rd Ed. 1897
Anderson, W. ... *The Deformities of the Fingers and Toes* 1897
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Local Medical Notes.

BRISTOL.

The twenty-fifth annual report of the Medical Missionary Society, being the one for the year 1896, records that 8074 patients were attended, an increase of 541 on the preceding year, and that every effort was taken to exclude persons who would not come under the heading of "sick poor." In fact the authorities seem keenly alive to the question of hospital abuse, to judge from the notices placed in various portions of the institution. The society appears to receive considerable support, and was fortunate in receiving a handsome legacy of £1000, though we regret to see that a sum is owing to the bankers. We wish Dr. Elder, medical superintendent, and his fellow-workers in the society success in the excellent medical and Christian work in which they are engaged.

University College.—On May 28th occurred the death of Mr. J. Greig Smith, the Professor of Surgery. A full notice of his life and work is given at the beginning of this number.

J. J. S. Lucas, B.A. Lond., M.R.C.S. Eng., L.R.C.P. Lond., has been appointed Medical Tutor in place of Dr. C. A. Brough, resigned.

The following students have recently passed examinations:

Examining Board in England by the Royal Colleges of Physicians and Surgeons.—*Five Years' Curriculum. First Examination. Part I. Chemistry and Physics*—P. L. Hickes, F. H. Rudge, R. H. N. Rutherford; *Part II. Practical Pharmacy*—F. P. Mackie; *Part III. Elementary Biology*—E. J. Dermott, P. L. Hickes, R. H. N. Rutherford. *Second Examination. Anatomy and Physiology*—A. Coleridge, F. W. Cotton, C. A. H. Gee, C. F. Walters. *Final Examination. Medicine*—J. J. S. Lucas*; *Midwifery*—C. D. Ingle, H. R. C. Newman.

*Completes Examination.

BRISTOL ROYAL INFIRMARY.—Mr. G. Munro Smith, M.R.C.S. Eng., Assistant-Surgeon, has been elected Surgeon. Mr. Thomas Carwardine, M.B., M.S. Lond., F.R.C.S. Eng., House-Surgeon, has been elected Assistant-Surgeon.

International Congress of Forensic Medicine.

The "Société de Médecine légale de Belgique" is organising an International Congress on this important subject. It is to be held in Brussels from August 2nd to the 7th, and will concern itself with the following topics: Bacteriology and Toxicology; Legislation; Forensic Medicine; Mental Medicine. The cost of membership is 20 francs. Further information can be obtained from the Secretary-General, Dr. Camille Moreau, Charleroi. The fact that the Congress is to be held during the time the Brussels Exhibition will be open may be a special inducement to those who are thinking of attending.

SCRAPS

PICKED UP BY THE ASSISTANT-EDITOR.

Clinical Records (19).—The *Guyoscope* is responsible for the following:—

There was a young lady called Margery,
Whose head was a walking menagerie.
Folks said, "You should wash,"
But she answered, "Oh, bosh,
I'll apply some Unguentum Hydrargyri."

Medical Philology (XXII.).—The *Promptorium* has "COGHE. *Tussis.*" The Heber MS. has "cowhe, or host," which was followed by Wynkyn de Worde in his 1516 edition. Pynson in 1499 printed "cough or horst." As the English equivalents of *tussio* and *tussito*, other readings give cowyn or hostyn, cowhyn, and cowghen. The *Promptorium* also has "HOOSE, or cowghe. *Tussis,*" with cowgth as a variant spelling. In addition we find "HOSTYN', or rowhyn', or cowghyn. *Tussio, tussito,*" with further varieties of spelling as rowwhyn and rewyn.

The *Catholicon* has "an **Host**; *tussis, tussicula,*" and "to **Host**; *tussire.*"

The notes by Mr. Way and Mr. Herrtage include the following:—

Among the virtues of "horhowne," as stated in a translation of Macer's Treatise on Plants, MS. XVth Cent. belonging to Hugh W. Diamond, Esq. is the following: "þis erbe y-dronke in olde wyne helpiþ þe kynges hoste, and þe comone coghe eke." In another place a decoction of roots of "skyrewhite" is recommended to heal "þe chynke and þe olde coghe." Skinner says the hooping-cough was termed in Lincolnshire kin-cough, and derives the word from the Belg. kinckhost, and the verb kinchen, *difficulter spirare.*

"*Tussis*, host." Vocab. Roy. MS. 17 C. XVII. "*Raucedo*, hoocenesse; *raucidus*, hooce; *raucidulus*, sum dele hoce; *raucus*, hoost," MED. Forby gives hoist, a cough. Ang. Sax. hwosta, *tussis.*

"*Yvresce fait fort home chatouner* (creopen),
Home aroce (hoos) *fait haut huper* (ȝellen)." G. de Bibelesw.

The Craven dialect still retains the word hoste, hoarseness.
Chaucer, Millier's Tale, 3697, tells us how Absolom when he went to serenade Alison—

"Softe he *cowhith* with a semysoun"

"*Tussis*. The cowhe." Medulla.
"His ene wes how, his voce wes hers *hostand*." Henrysone, Bannatyne Poems [1571] p. 131, in Jamieson, who also quotes from Dunbar, Maitland Poems, p. 75.

"And with that wourd he gave ane *hoist* anone."

English words ending in *ough* are well known to be a terrible difficulty to the foreigner, who may see from these notes that "cough," was at one time pronounced "cow," and that it had to go through many changes before its present spelling was fixed.

"Host" as meaning cough is clearly from the Anglo-Saxon *hwosta*. Cough in modern German is *husten*. Jamieson, in addition to the instance quoted above, gives "host" and "hoast"; "hoase" and "hoast" appear in the English Dialect Society's *Rutland Words*, 1891.

"Hoarse" is allied to the foregoing; being connected with the Anglo-Saxon *hás* and appears in Middle-English in various forms. In *Piers Plowman* (ed. Wright, p. 367, l. 12017) is "hoors in the throte," and Chaucer (ed. Morris, v. 165, *Boke of the Duchesse*, 347) has "horse of soune."

Mr. Way's note brings out some interesting points in connection with "chincough," a term still often used for whooping cough.

As equivalents of whooping cough, "kink-hoast," "kin-couf," and "kin-cough" all appear in *Northumberland Words*, issued by the Dialect Society in 1894. Chincough is clearly allied to these and to various Continental forms, which are given by the *New English Dictionary* as containing the Saxon stem, *kink*, to gasp or pant. Chincough, which it is obvious should be pronounced kincough, is therefore a cough specially associated with panting.

The *chin* of "chincough" was sometimes connected with *chine*, a word which, meaning a cleft or fissure, had lived on in various forms of spelling from Saxon times until the 16th century, when "it was superseded, except in the local use" of the Isle of Wight and Hampshire coast, by *chink*. If this connection of *chin* with *chine* had no etymological justification it had, at all events, some pathological basis, for it might have been supposed to denote the condition of things during the paroxysm of whooping cough when the air was passing through a narrowed opening—a chine or chink.

Neither *chink* nor *chincough* has been met with earlier than the 16th century.

Popular etymology, which sometimes associated the word with "chin" is, according to the *New English Dictionary*, also responsible for the form "kynges hoste," which appears in one of Mr. Way's quotations. This falsely connected "chin" with "king." Under the heading of Nomina Infirmitatum in a 15th Century Pictorial Vocabulary printed by Wright is "*Hec reuma, Anᵉ* a chynge." *Ch* and *k* would be easily interchangeable. King in Anglo-Saxon was cyning, or cyng, or cyneg.

Medical "Bits of Old Bristol" (3).—The order given by the Bishop of Worcester at his Visitation of the Abbey of St. Augustin in 1278 (see March number of *Journal*, p. 103) does not seem to have produced all the results that were desired. At another Episcopal Visitation in 1320 a further order was made "that the sick be better provided for." (Barrett, p. 263.)

This probably referred more to general care than to medical treatment. It would seem that the occupants of the infirmary did not always get the good things which were intended for them, but that their better food was sometimes appropriated by the monks who were in good health. Fosbrooke (*British Monachism*, ed. 1817, p. 324) quotes a passage from *Piers Plowman* as an allusion to the special dishes prepared for the patients in the infirmary. Do-wel (B-Text, E.E.T. Soc. ed., xiii. 105-9) says:

"By þis day, sire doctour," quod I · "þanne be ȝe nouȝt in dowel;
For ȝe han harmed vs two · in þat ȝe eten þe puddyng,
Mortrewes, and other mete · and we no [morsel] hade!
And if ȝe fare so in ȝowre fermorie · ferly me þinketh,
But chest be þere charite shulde be · & ȝonge childern dorste pleyne!"

The parallel passage in the C-Text (E.E.T. Soc. ed., xvi. 115-9) is:

> "Certes, sire," þanne seide ich · "hit semeþ nat here,
> In þat 3e parteþ nat with ous poure · þat 3e paseþ dowel,
> Noþer louyeþ as 3e lereþ · as oure lorde wolde,
> And 3e fare þus with 3oure sike freres · ferly me þynkeþ
> Bote dowel endite 3ow · *in die iudicii*."

Fosbrooke gives only the first of the passages, merely with the intention of showing that it was the custom to provide better food for the inmates of the infirmary. But it is also clear that the speaker meant to make a charge that this was consumed by those for whom it was not intended. Fosbrooke evidently missed the meaning of the word "fare," which at first sight might be thought to have a definite reference to food, but that is a later use, and in earlier times it meant "do" or "go," the meaning which it now holds in "farewell," "thoroughfare," and "welfare."

This was probably only one of the ways in which the "sike freres" were unfairly treated. Bearing on this subject, Skeat (E.E.T. Soc. ed., Part IV., i. 307) alludes to l. 614 of P. Pl. Crede and his note on it. I regret I am not able to quote this, as I have not seen that edition of the Crede.

It may be some consolation to the profession of to-day to remember that the person addressed in the first line of the first passage quoted was, of course, not a medical doctor.

Of the therapeutic measures adopted bleeding was the most frequent. In some abbeys there was a bleeding house called Flebotomaria. The operation, which was performed by a servant, as mentioned in our March number, was termed "minution." In the *Journal* for March and June, 1893, pp. 72, 144, I quoted various notes about the practice of bleeding in the Middle Ages. There were certain festivals when bleeding was not allowed in the monasteries, for instance at All Saints because on the morrow all the priests were to celebrate masses for the dead. In the order of S. Victor, which was also under the Augustinian rule, the brethren were bled five times a year—in September, before Advent, before Lent, after Easter, and after Whitsuntide. Anyone who wishes to learn more about these monastic bleedings will find copious references in Du Cange s.v. *minuere*.

It was thought necessary that after a bleeding the patient should be put on extra diet. The writer of the *Ancren Riwle*—a work written in the thirteenth century for the guidance of the nuns of a house in Dorsetshire—says, "Two maner men habbeð neode uorte eten wel, & forto drinken wel—swinkinde men, & blod-letene"; a passage which is thus rendered by Morton in the Camden Society edition of the work, pp. 260-1, "Two sorts of men have need to eat and to drink well—men who labour, and men who have been let blood." Monks who had been bled were admitted to the infirmary for a short time after the operation, and in order to get a chance of the better living supplied for its occupants they frequently manifested a desire for venesection; and this no doubt was one of the purposes for which they feigned sickness, and one of the abuses to which attention was called in the order made by the Bishop in 1278 (see March *Journal*, p. 103).

In prescriptions found in works about the period in question many nauseous ingredients were often introduced. The sick monks doomed to suffer many an injustice had probably a fortunate escape from practical experience of pharmacy of this kind. In the monastic infirmary there was not likely to be much administration of drugs. Fosbrooke quotes Burton who, writing in 1621, said "that there was of old no use of physick amongst us, and but little at this day, except it be for a few nice idle citizens, surfeiting courtiers, and stall-fed gentlemen lubbers. The countrey people use kitchen physick; and common experience tells us, that they live freest from all manner of infirmities, that make least use of apothecaries physick. Many are overthrown by preposterous use of it, and thereby get their bane, that might otherwise have escaped." (*Anatomy of Melancholy*, ed. 1806, ii. 86.)